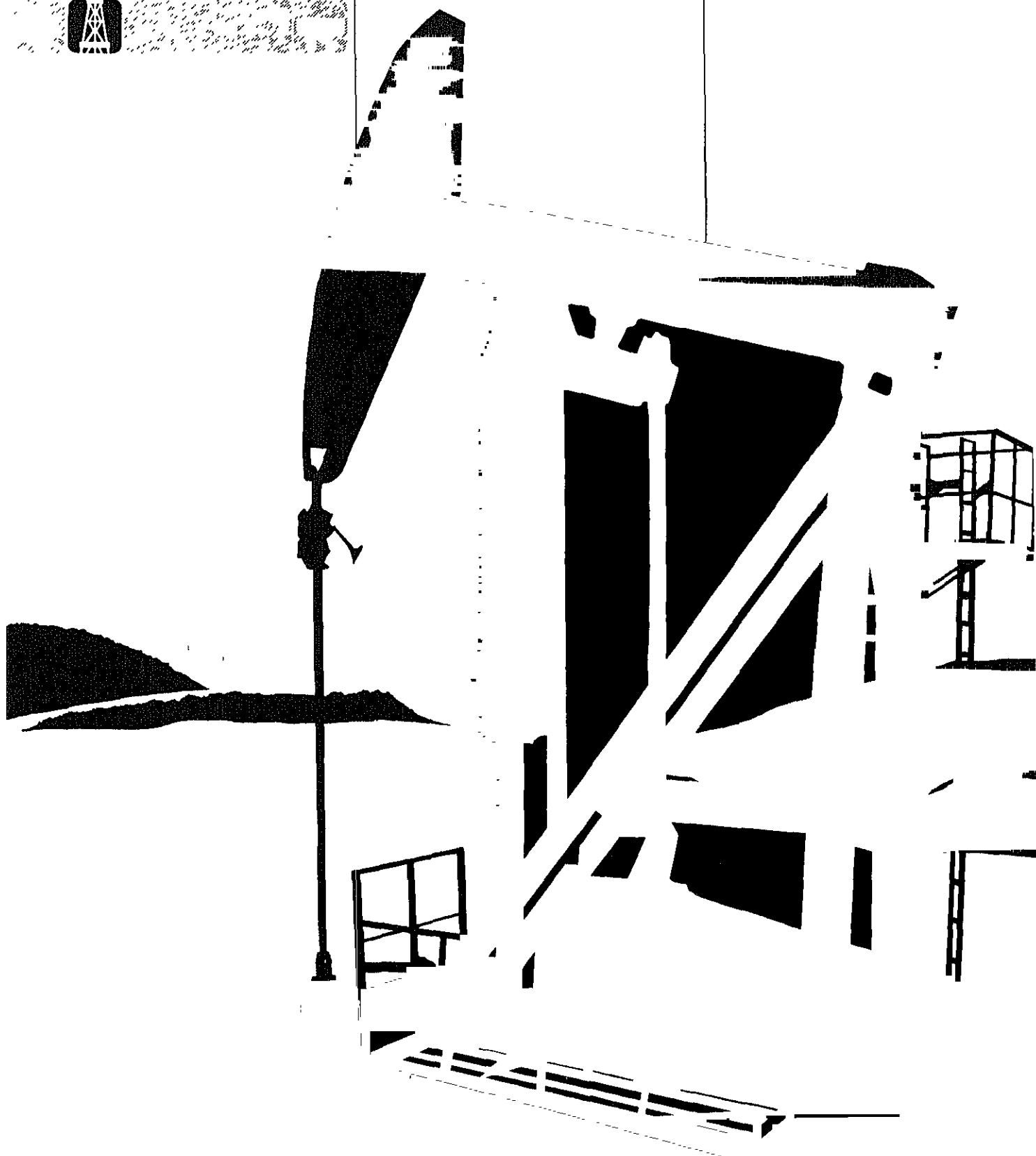
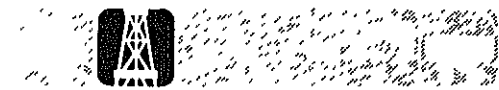


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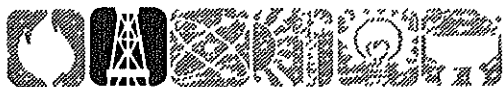


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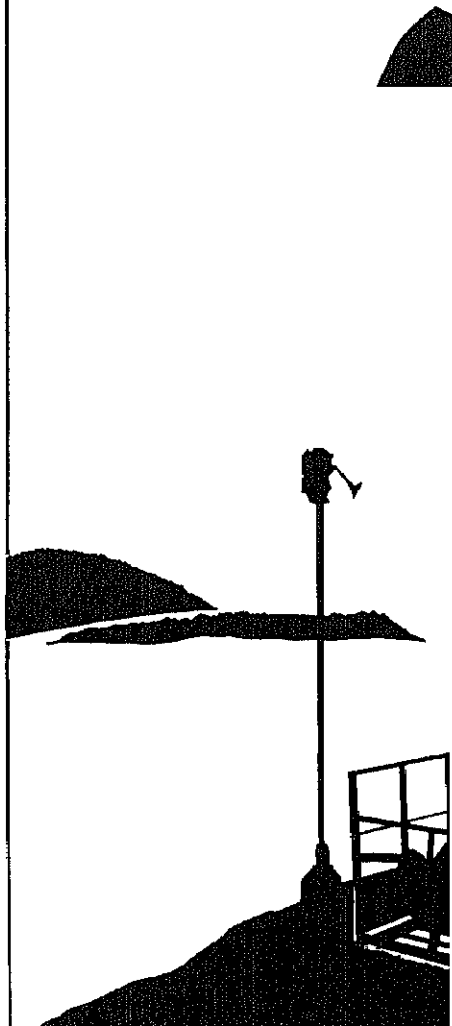


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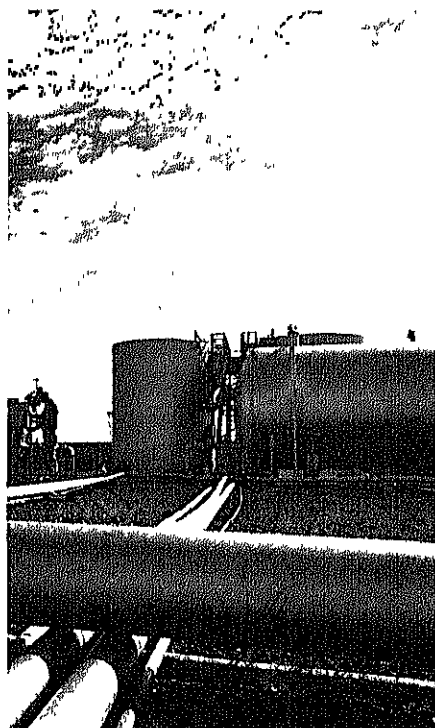
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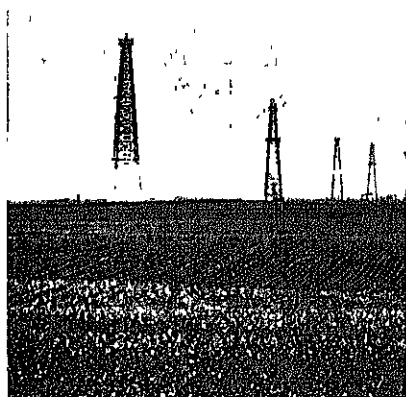
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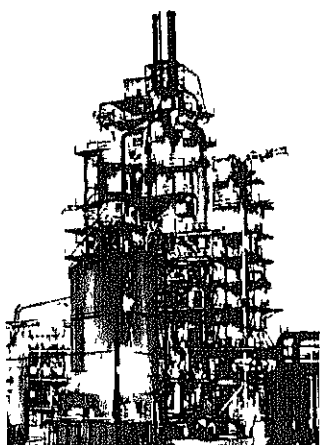
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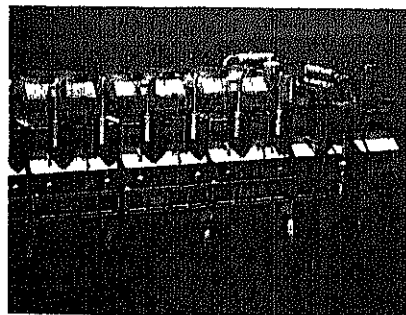


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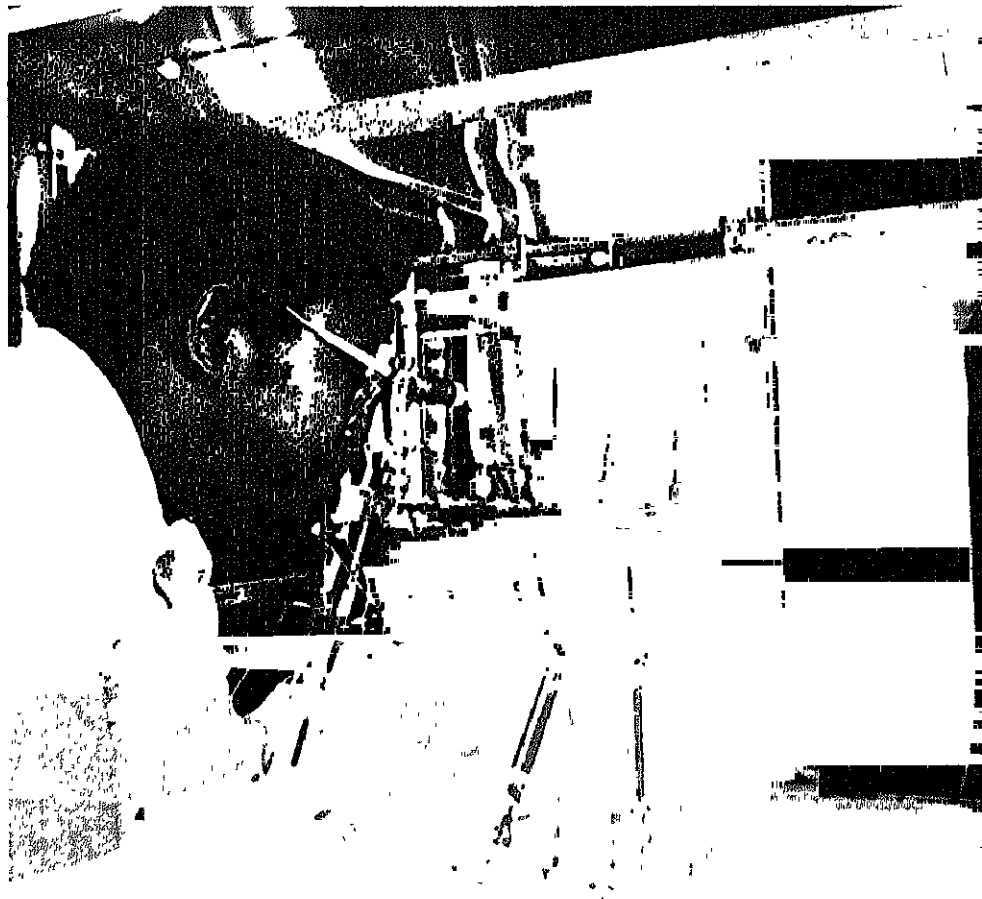
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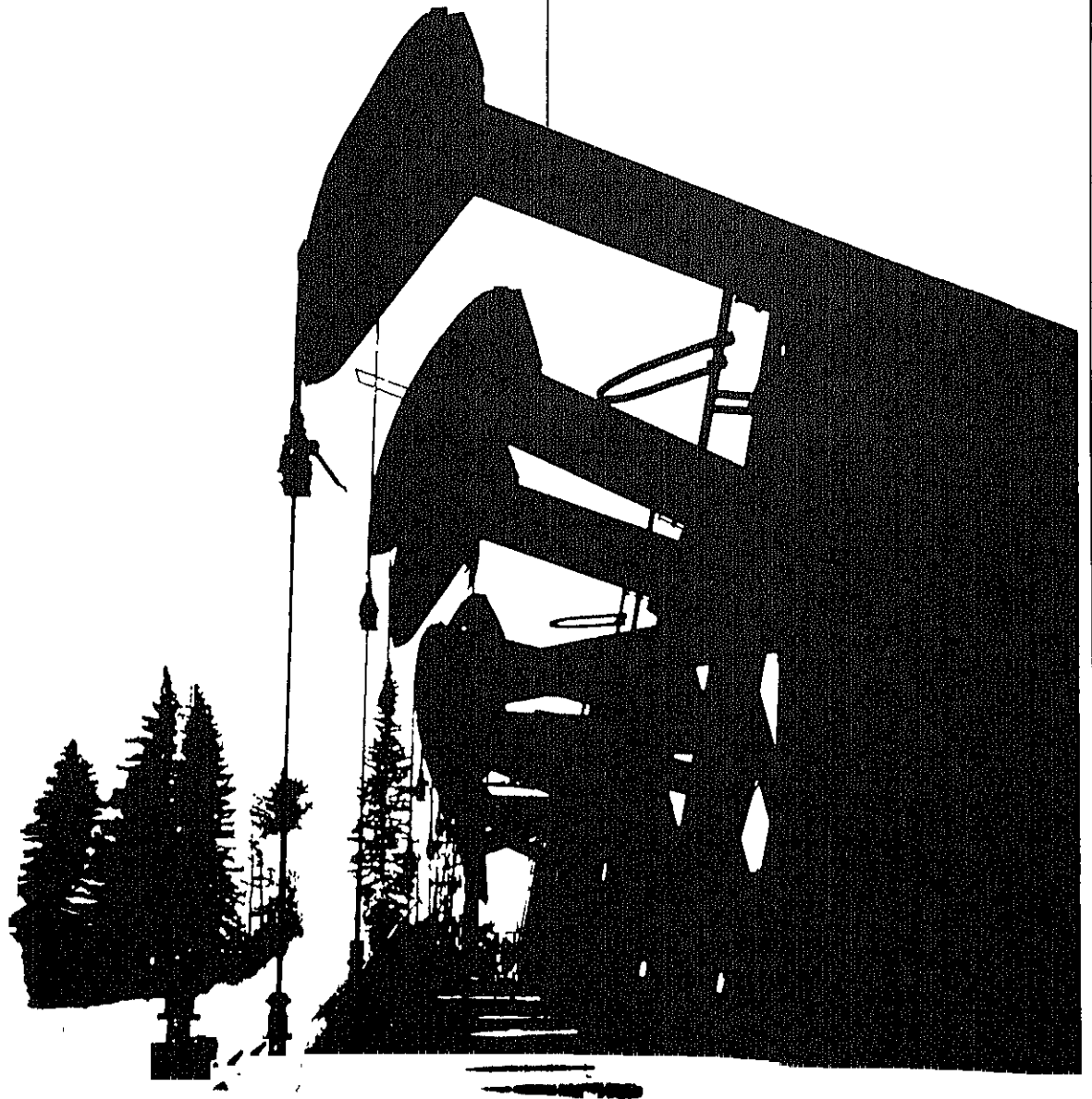
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Petroleum Focus



Overview

July 1982 Petroleum Supply Summary

In July 1982, crude oil¹ and natural gas liquids plant production averaged 10.2 million barrels per day, up slightly from the 10.0 million barrels per day during the same period in 1981. During July, 1982, petroleum products supplied (a proxy for consumption) averaged 14.8 million barrels per day, down 5.8 percent from the 15.7 million barrels daily average for July of 1981. Refinery inputs of crude oil for July 1982 averaged 12.4 million barrels per day, a 1.5 percent increase over the previous July. Daily operable crude oil distillation capacity in July 1982 averaged 17.1 million barrels daily, compared with 18.7 million barrels daily a year earlier. The refinery utilization rate was 75.2 percent in July 1982, compared with 67.4

percent one year earlier. Total petroleum net imports in July 1982 averaged 5.0 million barrels per day, and the year-to-date level averaged 4.1 million barrels per day, compared with 5.5 million barrels per day for the first 7 months in 1981. Petroleum product stocks at the end of July 1982 were lower than year earlier levels, 782 million barrels compared with 880 million barrels. July 1982 residual fuel oil stocks were 10 million barrels lower than those a year earlier; and inventories of total motor gasoline at the end of July 1982 were 2 million barrels below the July 1981 level.

¹Including lease condensate.

Petroleum Supply Summary

Average volume for Period (Million Barrels Per Day)	July			Cumulative January Through July		
	1982	1981	% Change	1982	1981	% Change
Total Product Supplied	14.8	15.7	-5.8	15.4	16.3	-5.1
Gasoline	6.8	6.8	-0.4	6.5	6.6	-0.7
Distillate Fuel Oil	2.1	2.4	-12.4	2.3	2.9	-3.6
Residual Fuel Oil	1.5	2.0	-25.6	1.8	2.2	-17.0
Crude Inputs to Refineries	12.4	12.3	1.5	11.8	12.5	-6.0
Crude Oil and Natural Gas Liquids Production	10.2	10.0	1.2	10.2	10.2	0.2
Net Imports ¹	5.0	5.2	-4.3	4.1	5.5	-24.7
Net Crude Oil Imports ²	3.9	3.9	1.4	3.0	4.0	-25.7
SPR Imports	0.1	0.2	-44.6	0.2	0.2	-25.0
Net Product Imports	1.0	1.2	-16.7	1.0	1.3	-21.3
Crude Oil Stock Withdrawal ³	-0.06	-0.04	—	0.09	-0.03	—
Product Stock Withdrawal	-0.9	0.1	—	0.5	0.3	—
Stocks at End of Period (Million Barrels)						
Crude Oil ³	345	386	-10.7			
Gasoline ³	226	228	-0.7			
Distillate Fuel Oil	148	186	-20.5			
Residual Fuel Oil	69	69	-15.0			
Total Product	782	880	-11.1			
SPR	267	173	54.3			
Total	1,394	1,439	-3.1			

¹Gross imports of crude oil (including Strategic Petroleum Reserve) and petroleum products less exports of crude oil and petroleum products.

²Excluding Strategic Petroleum Reserve (SPR)

³Including blending components.

Note: Percent changes are based on unrounded values.

Source: Energy Information Administration, U.S. Department of Energy, *Petroleum Supply Monthly*, September 1982.

Update

Refinery Shutdowns During 1982

The June issue of the Petroleum Supply Monthly highlighted refinery activities in 1981. It indicated that between January 1, 1981 and January 1, 1982, twenty-three refineries having a combined capacity greater than 450,000 barrels per day, were permanently shutdown.

At the beginning of 1982, operable refinery capacity totalled 17.9 million barrels per day. A portion of this operable capacity (1.8 million barrels per day) was idle but capable of restarting within 90 days.

During 1982, the pace of permanent shutdowns has quickened (see Table 1 below). In particular, for the June and July report periods, 37 refineries, having a combined capacity of 841,000 barrels per day, were declared permanently shutdown. The total permanent shutdowns for the year is now at 44 refineries. Table 2 below lists these refineries. Contacts with other refineries indicate that by the end of 1982 it is expected that 52 refineries having a combined capacity of 1.2 million barrels per day will have been permanently shutdown.

Table 1. Refinery Operations in 1981 and 1982

	Operable		Operating		Idle		Permanently Shutdown	
	# Ref.	Capacity MB/D	# Ref.	Capacity MB/D	# Ref.	Capacity MB/D	# Ref.	Capacity MB/D
During 1981							23	451
January 1, 1982	301	17,890	254	16,104	47	1,786	0	0
February 1, 1982	299	17,983	250	16,235	49	1,747	2	30
March 1, 1982	295	17,971	249	16,131	46	1,841	4	9
April 1, 1982	294	17,967	245	16,065	49	1,903	1	14
May 1, 1982	294	17,971	246	15,974	48	1,997	0	0
June 1, 1982	288	17,587	245	15,997	43	1,590	7	426
July 1, 1982	258	17,146					30	415
Jan-Jul, 1982							44	894
Aug-Dec, 1982	250	16,979					8	267
1982 Total (est.)							52	1,161

¹Includes one new refinery with capacity of 8,000 barrels per day.

Source: Form EIA-87 "Refinery Report."



Table 2. Refineries Permanently Shutdown since January 1, 1982
(Barrels per Calendar Day)

Refineries	Location	Crude Distillation Capacity	Date Shutdown
PAD District I			
Amoco Oil Co.	Baltimore, Maryland	15,000	7/82
Seminole Refining Inc.	St. Marks, Florida	15,000	7/82
Total		30,000	
PAD District II			
Amoco Oil Co.	Sugar Creek, Missouri	104,000	7/82
Ashland Oil Inc.	Findlay, Ohio	20,400	7/82
CRA, Inc.	Scottsbluff, Nebraska	5,600	7/82
Dillman Oil Recovery Inc.	Oblong, Illinois	1,200	3/82
E-Z Serv Refining Inc.	Shallow Water, Kansas	9,500	7/82
Energy Cooperative Inc.	East Chicago, Indiana	126,000	6/82
Industrial Fuel & Asphalt of Indiana Inc.	Hammond, Indiana	8,187	6/82
Kentucky Oil & Refining Co.	Betsy Lane, Kentucky	3,000	7/82
Mid-America Refining Co. Inc.	Chanute, Kansas	3,500	7/82
Northland Oil & Refining Co.	Dickinson, North Dakota	5,000	2/82
Texaco Inc.	West Tulsa, Oklahoma	50,000	7/82
Texas American Petro- chemicals Inc.	West Branch, Michigan	11,500	7/82
Total		347,887	
PAD District III			
Bayou State Oil Corp.	Hosston, Louisiana	3,000	3/82
Bronco Refining Co.	Houston, Texas	2,500	7/82
Caribou-Four Corners Oil Co.	Kirtland, New Mexico	2,500	7/82
Clinton-Manges	Palestine, Texas	10,000	7/82
Copano Refining Co.	Ingleside, Texas	11,100	7/82
Dow Chemical U.S.A.	Freeport, Texas	190,000	6/82
Eagle Refining Corp.	Jacksboro, Texas	1,800	7/82
Independent Refining Corp.	Pt. Neches, Texas	30,000	6/82
Independent Refining Corp.	Winnie, Texas	50,000	6/82

Table 2. Refineries Permanently Shutdown since January 1, 1982—Continued

(Barrels per Calendar Day)

Refineries	Location	Crude Distillation Capacity	Date Shutdown
PAD District III—Cont.			
Lake Charles Refining Co.	Lake Charles, Louisiana	28,000	7/82
Longview Refining Co.	Longview, Texas	14,000	4/82
Petraco-Valley Oil & Refining Co.	Brownsville, Texas	12,300	7/82
Rio Grande Crude Refining	Brownsville, Texas	9,500	6/82
Rio Grande Recovery Systems Inc.	Brownsville, Texas	1,000	7/82
Sentry Refining Inc.	Corpus Christi, Texas	26,000	2/82
Shepard Oil Co.	Jennings, Louisiana	10,000	7/82
Sooner Refining Co.	Darrow, Louisiana	8,000	7/82
TARCO	Eules, Texas	6,000	7/82
T & S Refining Inc.	Jennings, Louisiana	11,500	7/82
Tipperary Refining Co.	Ingleside, Texas	10,400	7/82
Wickett Refining Co.	Wickett, Texas	8,000	7/82
Total		444,600	
PAD District IV			
C & H Refinery Inc.	Lusk, Wyoming	190	7/82
Glacier Park Co.	Osage, Wyoming	4,160	3/82
Morrison Petroleum Co.	Woods Cross, Utah	6,800	7/82
Sage Creek Refining Co.	Cowley, Wyoming	1,200	7/82
Texaco Inc.	Casper, Wyoming	21,000	7/82
Total		32,850	
PAD District V			
Gibson Oil & Refining Co.	Bakersfield, California	4,600	7/82
Lunday-Thagard Oil Co.	South Gate, California	12,000	6/82
United Independent Oil Co.	Tacoma, Washington	730	3/82
West Coast Oil Co.	Oildale, California	21,000	7/82
Total		38,330	
United States, Total		893,667	

Source: Form EIA-87, "Refinery Report".

Petroleum Focus

Distillate Fuel Oil Outlook: Winter 1982-83

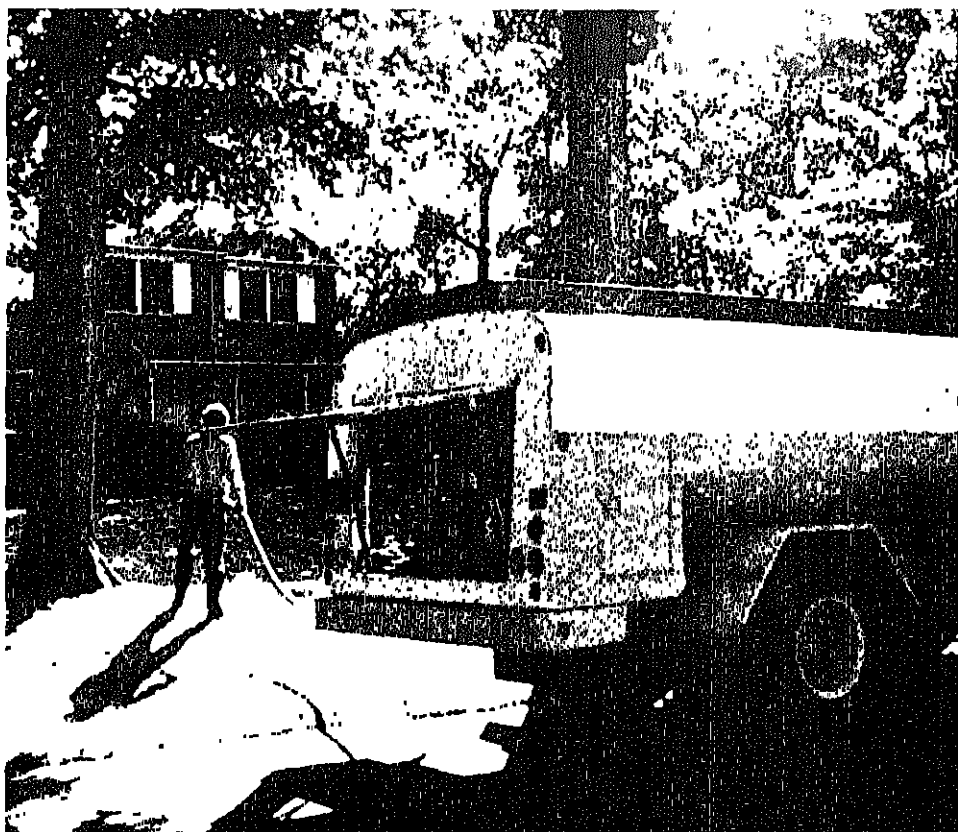
As the winter 1982-83 heating season approaches attention turns to the adequacy of heating oil stocks. A basic concern is whether supplies of heating oil this winter will be sufficient to meet U.S. demand. A second concern is whether low inventories of heating oil will make the distribution system vulnerable to a sudden cold spell or a localized transportation problem. Such situations could cause short-term regional shortages or larger-than-expected increases in heating oil prices.

Preliminary data indicate that the level of anticipated inventories should be adequate, but that the cushion of extra inventories is smaller than in previous years. However, since current inventories of crude oil are relatively high in terms of days of supply, and refineries are producing well below their maximum capacity, potential supplies are expected to be sufficient to meet even the extra demands of colder weather and stronger economic growth. Supplies of heating oil should be adequate, unless there is some drastic reduction in the worldwide availability of crude oil or in the willingness and ability of U.S. refiners to produce heating oil.

If demand is higher than expected during the winter heating season and stock levels fall more rapidly than expected, industry can adjust by:

- Drawing down crude oil stocks and increasing the rate of refinery utilization. Crude oil stocks at the end of August were 356 MMB, well within the average range for this time of year. Refinery utilization of 68 percent during the first 8 months of 1982 is well below recent historical peaks which have been as high as 88 percent in 1978.
- Importing more distillate from outside the United States. Current distillate imports are well below the peak of more than 650 MB/D in February 1977. Presently, Europe has more excess refining capacity than the United States.
- Changing present refinery yields to produce more distillate.

These options provide industry with considerable flexibility to respond to increases in demand.



Recent Trends in Fuel Oil

This article reviews recent trends in the demand for, and supply of distillate and residual fuel oils, the two principal petroleum products used for heating in the United States. The uses of these petroleum products have changed significantly since 1977, the year of peak consumption. In that year, less than 40 percent of all distillate was consumed by the transportation sector (e.g., automobiles, vessels, and railroads), whereas by 1981 more than half of all distillate supplied was consumed for transportation, reflecting decreased heating use. Although one of the principal uses of distillate has been space heating, less than one gallon in five (19 percent) of all distillate supplied in 1981 was used for residential heating.

Recent Trends in Demand

Demand for distillate fuel oil peaked in 1978 at about 3.4 million barrels per day and fell to about 2.8 million barrels per day by 1981 (see Table 1). This decrease of about 17 percent in three years can be attributed to changes in variables affecting distillate consumption; i.e., prices, economic activity, weather, and conservation effects. By far the most influential variable over the 1978-1981 pe-

riod was price. In real terms, residential heating oil prices rose more than 75 percent over the 1978-1981 period—an annual average increase of over 20 percent.

Price increases can affect quantities demanded in several ways:

- Utilization of fuel-burning equipment decreases as consumers and businesses "do without." This is typically a very short-term response.
- Existing equipment is run using alternative, less costly fuels. This is also typically a short-term response, and generally applies only to those establishments which have invested in dual-fired boilers and furnaces.
- Embodied and disembodied technological changes are made to existing equipment or the environment in which it is used. An example of an embodied change is cleaning and adjusting furnaces and boilers to make them more efficient. An example of a disembodied change is adding more insulation to a home or office building.

Table 1. Distillate Fuel Oil Supply and Demand: 1978-1982
(Million Barrels per Day)

Year/ Quarter	Product Supplied (Apparent Demand)	Production	Net Imports ¹	Stock Withdrawals ²
1978	3.43	3.17	0.17	0.09
1979	3.31	3.15	0.19	-0.03
1980	2.87	2.66	0.14	0.06
1981 - I	3.46	2.76	0.24	0.46
- II	2.47	2.46	0.17	-0.18
- III	2.43	2.55	0.16	-0.23
- IV	2.96	2.69	0.11	0.17
- Average	2.83	2.61	0.17	0.04
1982 - I	3.16	2.45	0.00	0.69
- II	2.63	2.57	0.01	0.03
- Average ³	2.89	2.51	0.01	0.36

¹Negative numbers indicate that exports exceeded imports.

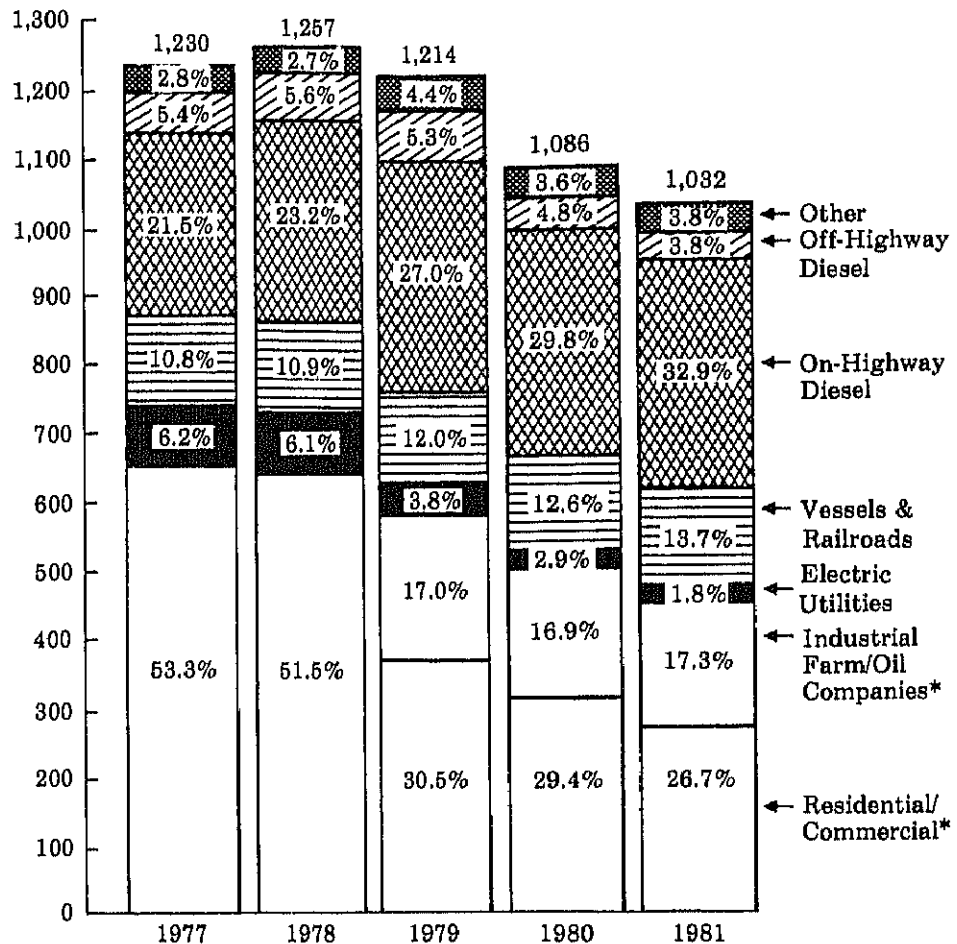
²Negative numbers indicate stock additions.

³January-June 1982.

Note: Beginning in January 1981 EIA modified survey forms, definitions, and processing procedures. See Explanatory Note 4.

Sources: EIA, *Petroleum Supply Annual* 1981 and *Petroleum Supply Monthly* (for 1982).

Exhibit 1. Deliveries of Distillate Fuel Oil by Use as Percent of Total (Millions of Barrels)



Source: EIA, *Petroleum Supply Annual* 1981

*These were a single category prior to 1979.

These changes typically take place over a longer period of time and have a more lasting impact.

- Purchase and installation of new, more efficient fuel-burning equipment. Because of the cost involved, this is typically a long-term investment decision. Once the investment has been made, its impact will be felt for many years.

A Residential Energy Consumption Survey¹ conducted by the Energy Information Administration (EIA) in 1980 and 1981 indicated that during the April 1979-March 1980 period, an estimated 1.3 million households, or 8.2 percent of all households then heating with fuel oil or kerosene, switched to other fuels, mainly wood and natural gas, as their main source of heat. In addition, during

1978-1979, approximately 1.9 million households heating with fuel oil or kerosene added attic insulation; 1.6 million added storm windows and/or storm doors; and 0.7 million added wall insulation. These data indicate a significant trend toward both fuel-switching and conservation by residential consumers of fuel oil.

Consumption of distillate fuel oil is shifting from the traditional fuel oil use for space heating, industrial purposes, and electricity generation toward increased usage in the transportation sec-

¹Energy Information Administration, Department of Energy, Residential Energy Consumption Survey: Report Numbers: DOE/EIA-0207/5, July 1980; DOE/EIA-0262/1, April 1981; DOE/EIA-0314, June 1982.

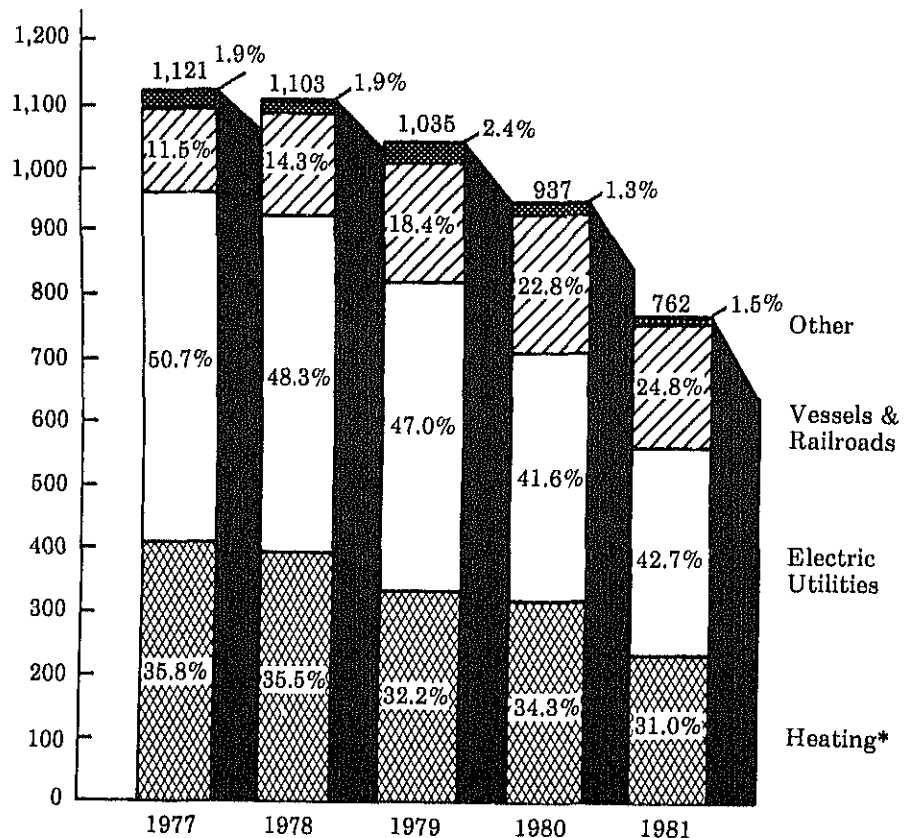
tor (see Exhibit 1). On-highway diesel had the most dramatic increase, 28 percent from 1977 to 1981 while electric utility use declined 76 percent during the same period. In 1981, diesel fuel accounted for over 50 percent of the distillate fuel oil consumption. This reflects both the increase in the diesel penetration of the private and commercial automobile fleet, and the overall decline in demand over the 1978-81 period.

The latest demands (through mid-1982) show an apparent leveling off of the decline in consumption noted earlier. Falling prices and anticipation of price increases contributed to a slight increase (about 6 percent) in product supplied between the second quarter of 1981 and the second quarter of 1982. Despite a colder-than-normal winter, first quarter demand in 1982 was down 9 percent from year-earlier levels, largely because

of lower first-quarter economic activity. Another factor in the leveling off of the distillate demand decrease is the likelihood that consumer actions such as adding insulation, retrofitting, and doing without have already been completed, and that further efficiencies will occur more slowly as the current stock of fuel-burning equipment is replaced over the next several years.

Exhibit 2 indicates changes in the composition of residual fuel oil consumption. The commercial, industrial, and oil company sectors together declined 400,000 barrels per day, or 38 percent between 1978 and 1981. Consumption by the transportation sector in 1981 accounted for about 25 percent of total demand. Consumption by electric utilities declined 570,000 barrels per day, or almost 40 percent, between 1978 and 1981

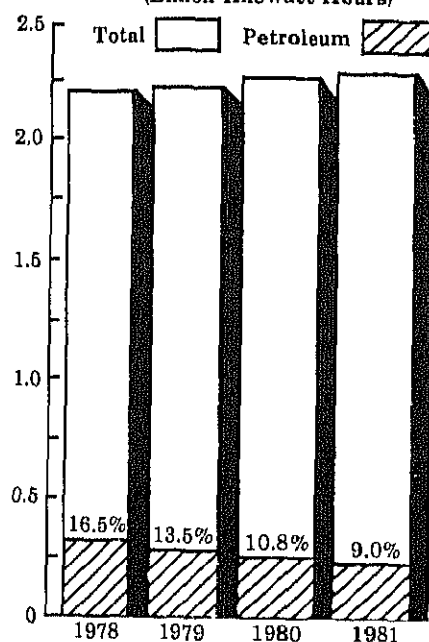
Exhibit 2. Deliveries of Residual Fuel Oil by Use as Percent of Total (Millions of Barrels)



*Includes Oil Companies, Commercial, and Industrial

Source: EIA Petroleum Supply Annual, 1981

Exhibit 3. Electricity Generation by Source: 1978-1981
(Billion Kilo watt Hours)



Source: Energy Information Administration, U.S. Department of Energy, *Monthly Energy Review*, August 1982, p. 66.

(Exhibit 3). Utility companies shifted from electricity generation using petroleum to generation using other energy sources. While electricity generation increased by 4 percent between 1978 and 1981, generation using petroleum declined 44 percent. Coal and natural gas more than made up the decline although generation by natural gas stopped growing in 1981, while growth in electricity generation using coal continued to be strong.

The greatest demand levels for residual fuel oil were about 3.0 million barrels per day in 1977 and in 1978. By 1981 (see Table 2), demand had dropped to about 2.09 million barrels per day, a decrease of about 32 percent in 3 years. A major determinant in the decline was price, which nearly doubled in real terms over the 3-year period, 1979-1981.

Recent Trends in Supply

Production, net imports, and net stock withdrawals comprise the supply of distillate fuel oil. Production of distillate declined 18 percent between 1978 and 1981, slightly more than the 12 percent decline in refinery production of all petroleum products over this period (see Table 3). Coincidental with the decline in distillate production was a reduction in refinery utilization from a rate of 87.8 percent in 1978 to 68.6 percent by 1981. This reflects the decrease in general demand for petroleum products over the period. Refinery inputs of crude oil fell 15 percent, and overall petroleum product demand declined 15 percent during the 3 years.

Distillate imports, while fluctuating from year to year, averaged 173,000 bar-

Table 2. Residual Fuel Oil Supply and Demand: 1978-1982
(Million Barrels per Day)

Year	Product Supplied	Production	Net Imports	Stock Withdrawals ¹
1978	3.02	1.67	1.34	-0.00
1979	2.83	1.69	1.14	-0.02
1980	2.51	1.58	0.91	0.01
1981 - I	2.54	1.53	0.78	0.18
- II	1.91	1.26	0.54	0.06
- III	1.90	1.23	0.74	-0.12
- IV	2.01	1.26	0.67	0.02
- Average	2.09	1.32	0.68	0.04
1982 - I	2.10	1.15	0.67	0.23
- II	1.64	1.12	0.50	-0.04
- Average ²	1.87	1.13	0.58	0.10

¹Negative numbers indicate stock additions.

²January-June 1982.

Note: Beginning in January 1981, EIA modified survey forms, definitions and processing procedures. See Explanatory Note 4.

Sources: EIA, *Petroleum Supply Annual* 1981 and *Petroleum Supply Monthly* (for 1982).

Table 3. Distillate & Residual Fuel Oil Production and Total Refinery Production: 1978-1982
(Million Barrels per Day)

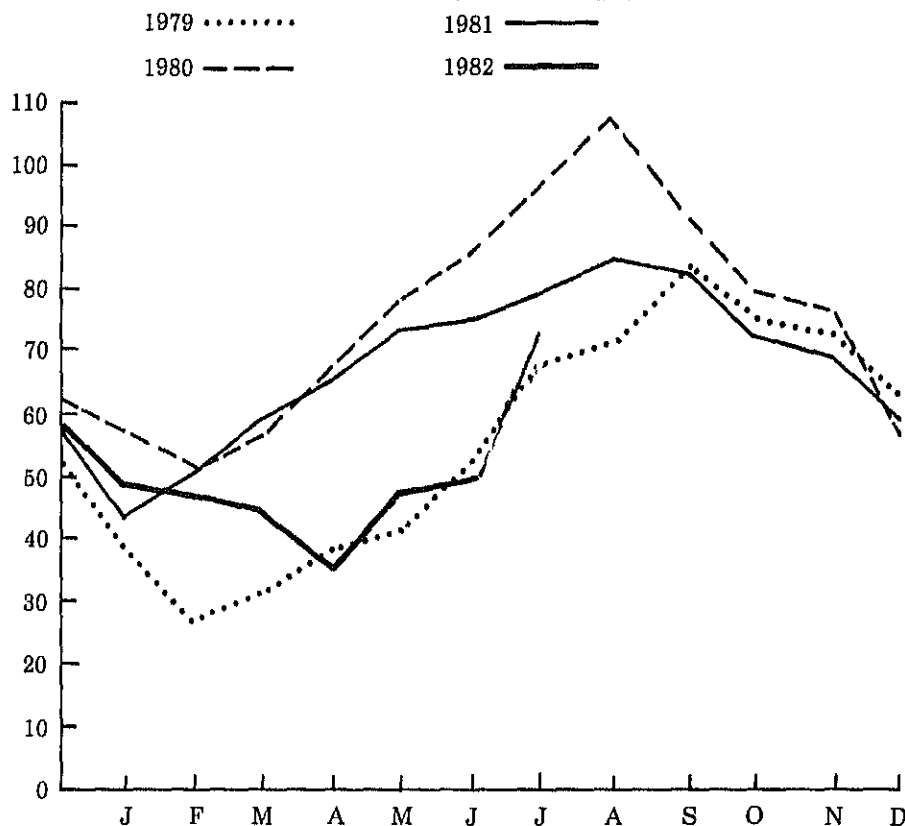
Year	Total Refinery Production	Distillate Fuel Oil Production	Residual Fuel Oil Production
1978	16.97	3.17	1.67
1979	16.76	3.15	1.69
1980	14.62	2.66	1.58
1981	13.99	2.61	1.32
1982 ¹	13.18	2.51	1.13

¹January-June 1982.

Note: Beginning in January 1981, EIA modified survey forms, definitions and processing procedures. See Explanatory Note 4.

Sources: EIA, *Petroleum Supply Annual*, (for 1978-1981); *Petroleum Supply Monthly* (for 1982)

Exhibit 4. Distillate Fuel Oil Days of Supply: 1979-1982



Sources: Energy Information Administration, U.S. Department of Energy, *Petroleum Statement, Annual*, 1979 and 1980; *Petroleum Supply Annual* 1981; and *Petroleum Supply Monthly*, (for 1982).

rels per day in 1981, the same level as in 1978. In 1982, market conditions have enabled the United States, for the first time in several years, to export significant quantities of distillate to Mexico, Japan, and Western Europe.

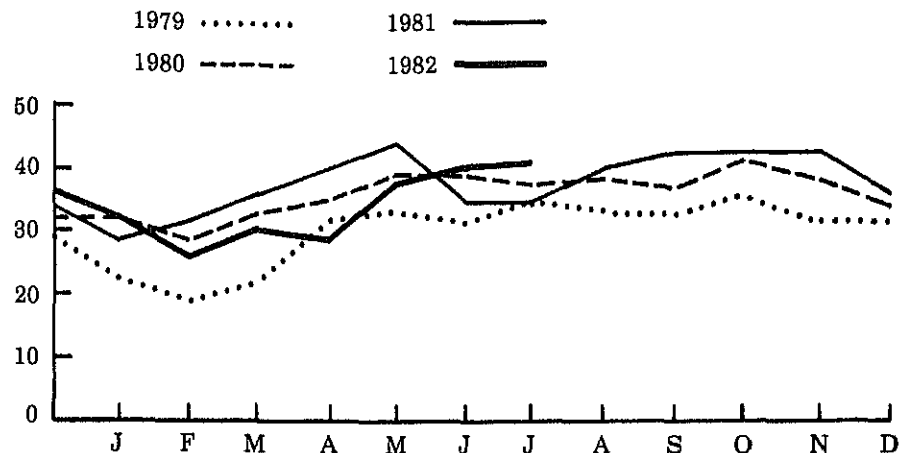
Stock levels of distillate normally follow a pattern of buildups in the late spring and summer, and drawdowns in the fall and winter. The seasonal patterns remain fairly constant from year to year. During the past few years, however, stock levels have dropped successively. Distillate stocks during 1981 and 1982 were lower each month than during the corresponding period a year earlier. Year-end stocks in 1981 stood at 192 million barrels, 11 percent below ending stocks in 1978, and 16 percent below 1979 levels. Reasons for the lower levels of stocks held by primary suppliers over

the last several years include:

- Higher interest rates, making inventory holdings more costly;
- Lower production rates due to a general softening of demand, as discussed earlier; and
- Increased stocks of crude oil, evidently preferred by refiners to product stocks as a buffer in a period of generally adequate supplies.

Although stocks of distillate have been lower, available days of supply of distillate (primary stocks divided by daily average product supplied) have not shown the same decline (see Exhibit 4). Particularly, in the September-December period of each of the 8 years 1979-1981, the number of available days of supply has been roughly similar—

Exhibit 5. Residual Fuel Oil Days of Supply



Sources: EIA, *Petroleum Statement, Annual*, 1979 and 1980; *Petroleum Supply Annual*, 1981; and *Petroleum Supply Monthly*, (for 1982).

dropping from about 80 days at the end of September to about 60 days by year's end. During the remainder of the year, days of supply largely reflect the severity of the winter, with the cold winters of both 1978-1979 and 1981-1982 yielding only 40 days of supply available by the end of April of 1979 and 1982, respectively.

Residual fuel oil (residual) production declined 21 percent between 1978 and 1981. It is significant, however, that residual production, unlike that of distillate, was supplying 63 percent of residual fuel demand by 1981, compared with 55 percent in 1978. This reflects the substantial decline in net imports, occurring this period, which fell 50 percent to 680,000 barrels per day in 1981. The beginning of the decline in net imports coincided with the end of the entitlements program. In addition, the removal of export limitations (in October 1981) led to increases in the exportation of residual oil.

End of year stocks of residual fuel oil, which peaked at 96 million barrels in 1979, fell to 78 million barrels by the end of 1981, a decline of 19 percent. As with distillate, end-of-month stocks were successively lower each month in 1981 and 1982 than in the previous year. Again, this reflects lower prices and demand,

and adequate crude oil stocks. As seen in Exhibit 5, however, the decline in residual consumption has meant that available days of supply have been *higher* each year since 1979. Although available days of supply fell by April of this year to less than 30 days, days of supply in May rose to 38 days due mostly to a continuing decrease in demand. This is still lower than in 1981, but higher than in the corresponding months of 1979 and 1980.

Conclusion

Demand for both distillate and residual fuel oils has dropped over the past few years, and end-use consumption patterns have changed. The use of distillate fuel oil for heating and the use of residual fuel oil for electrical generation has decreased substantially as traditional customers have shifted to other fuels. In contrast, distillate use for transportation has been increasing.

The general decrease in the use of distillate and residual fuel oils in the domestic market is having a favorable influence on the energy balance of trade, as less product is being imported than in the past several years, and more product is being exported. Based on days of supply measures, current levels of inventories are within historic ranges.

What are Futures?

Futures are contracts for the delivery of a specified quantity of a commodity on a specified date in the future, at a price which is agreed upon when the contract is executed. The quality of product and the delivery points that will satisfy the contract are also indicated.

Futures contracts differ from more common contractual arrangements in that the contracting parties need never meet one another or, indeed, even know who their counterparts are. Further, a most important feature of futures trading is that contracts may be resold many times before the specified delivery date. That is, a futures contract has a market value that is independent of the delivery price specified in the contract.

Firms and individuals use futures both to "hedge" against future price and supply uncertainty and to "speculate" on expected price trends. As a tool to reduce supply uncertainty, the use of futures contracts is straightforward—the contract guarantees delivery of a certain volume on a certain date. The

use of futures to reduce price uncertainty is more complicated and involves both "short" and "long" hedgers. A short hedger *sells* a futures contract to "lock in" the price he will receive either for his inventories or for his planned future production. A long hedger *buys* a futures contract to "lock in" his future product costs. It is important to understand that the use of futures to hedge against price uncertainty does not require that the firm either take or make delivery of a physical barrel of oil.

The efficient use of futures for price-risk hedging is based on the condition that the value of a firm's cash market position will change by an equal but opposite amount to that of an appropriate futures position. In the long run, the net gain from a successful hedging operation should be zero—the firm neither loses nor profits from any change in cash market prices. Thus, as important as the capability of avoiding major, unexpected losses, hedging in futures enables firms to plan and budget more accurately for their future operations.

Futures Trading on Heating Oil Markets

History

Activity in oil futures trading has accelerated considerably since a No. 2 heating oil futures contract was introduced on the New York Mercantile Exchange (NYMEX) in late 1978. Currently there are petroleum futures markets in heating oil, residual fuel oil, leaded and unleaded gasoline, and propane.

In its first year, the NYMEX No. 2 heating oil futures contract experienced only light trading volume (10-100 contracts daily).¹ In September 1979, the trading volume and open interest (the number of active contracts) and the quantity of oil involved began increasing substantially (see Exhibit 1). Three reasons for this increased activity are:

- The disruption of Iranian oil supplies, which began in 1979, provoked price uncertainty and attracted speculators as well as industry hedgers to the market. World oil prices nearly doubled in 1979, but the rate of price increase in the last quarter was especially sharp.
- Large heating oil inventories had been built up by fall 1979, partly in response to government inducements to build supplies for the upcoming winter. There had been general concern about the adequacy of heating oil stocks after nationwide motor gasoline shortages that summer. Oil jobbers and distributors felt a need to hedge these substantial inventories.
- When the Iran-Iraq conflict began in September 1980, the No. 2 heating oil futures market had been around long enough for industry and potential speculators to observe sufficient "liquidity" (i.e., a sufficient volume of trading to ensure that a futures position may be easily closed) in the market and to gain confidence in the use of the contracts. With the tremendous

uncertainty concerning world oil supplies that arose with the outbreak of the Persian Gulf war, there also arose tremendous opportunities for speculation.

Both the number of contracts and the volume of oil represented by No. 2 heating oil futures contracts for New York Harbor delivery increased rapidly after September 1980. By March 1981, the monthly trading exceeded 89,000 contracts and by April 1982, the daily trading volume reached a NYMEX record of 14,000 contracts. The availability of excess crude oil on the world market, which became apparent early in 1981, increased the need to hedge inventories, helping to sustain both trading volume and open interest.

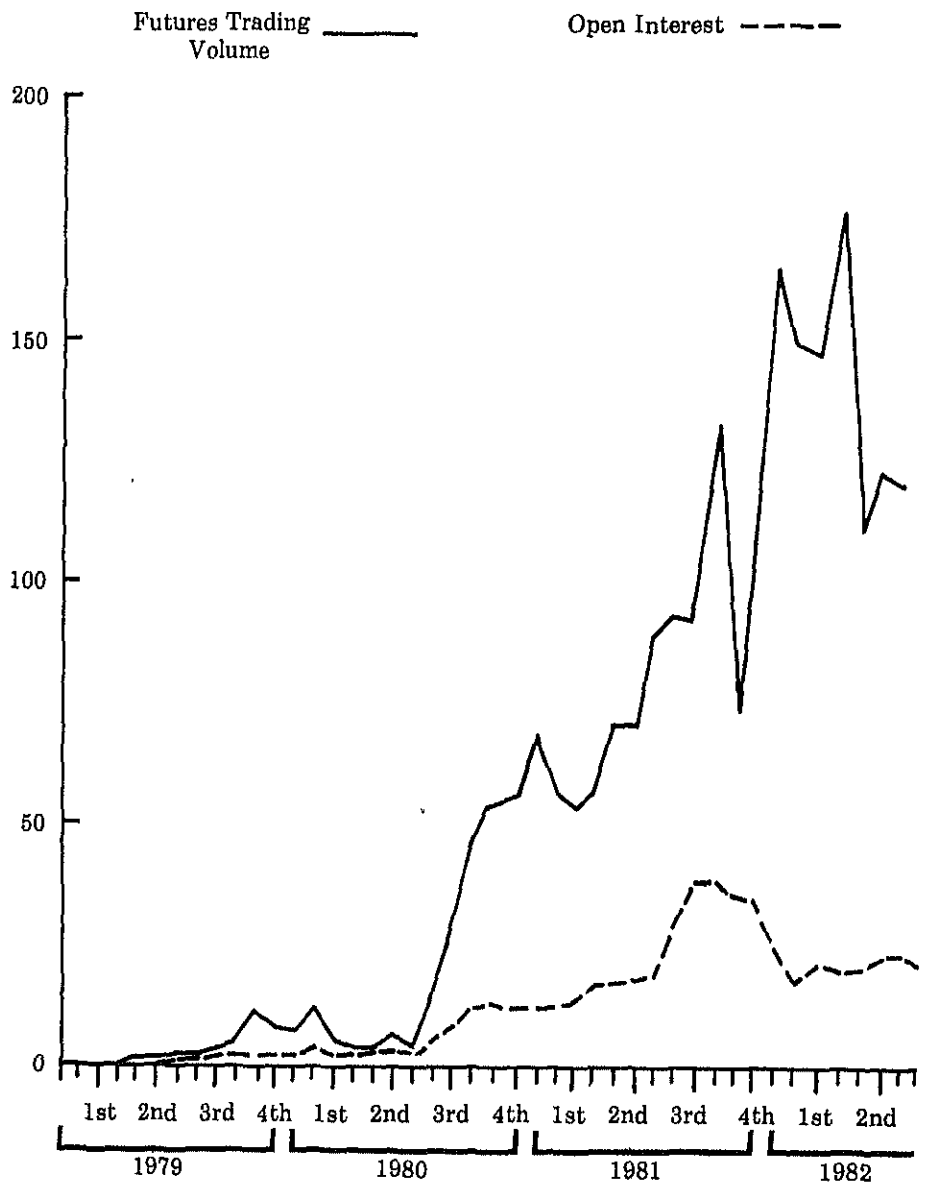
NYMEX trading in heating oil contracts for Gulf Coast delivery was initiated in August 1981. Activity is still much lower than that for the New York Harbor contracts.

Impacts on Inventory Strategy

The emergence of an active futures market in heating oil may be influencing the inventory strategies of producers, distributors, and end-users. By purchasing a futures contract, a distributor or end-user can guarantee it will receive a certain volume of product on a given date. Thus, the firm's need to maintain stocks in order to ensure adequate product availability on that date is reduced. At the same time, a producing firm that has high inventories, but is concerned about the possibility either of not being able to sell those stocks or of the future sales price declining, may protect the value of its stocks by selling futures contracts. In this case, the producer may maintain higher inventories than it would if there were no futures market. The buying and selling of futures contracts by hedgers at different levels in the industry has the effect of redirecting where stocks will be maintained. Speculators assist this process in a major way, by compensating for any net difference between hedging sales and purchases with their own purchases and sales. In general, the risk transference made possible by futures hedging, in conjunction with a more efficient dis-

¹Each contract is for 1,000 barrels of heating oil (42,000 gallons) and is priced in cents per gallon. Each cent change reflects the gain or loss of \$420 per contract.

Exhibit 1. No. 2 Heating Oil Futures Trading Volume and Open Interest (Thousand Contracts)



Source: New York Mercantile Exchange

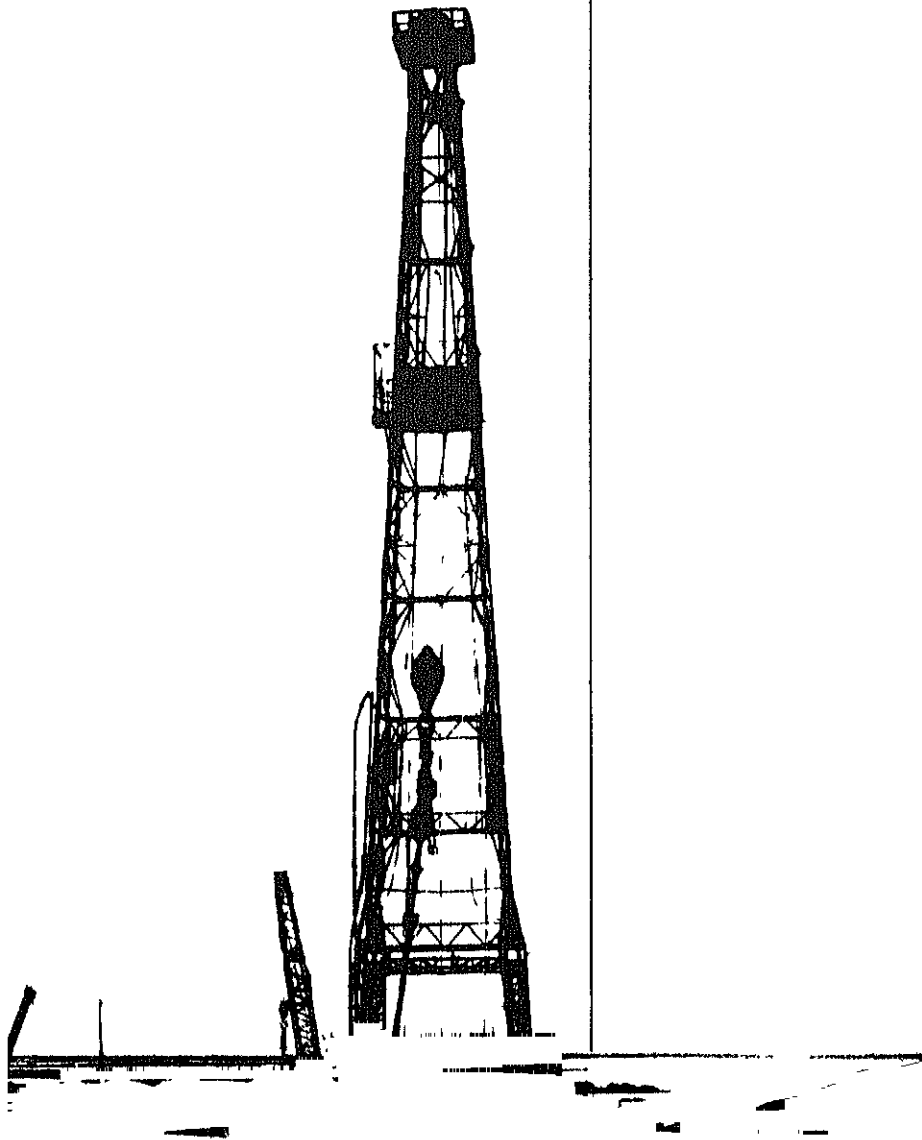
tribution of product inventories, may be expected to result in generally lower optimal stock levels as the volume of futures hedging activity increases.

Impacts on Pricing Strategy

Proponents of energy futures contracts believe that hedging in futures is changing the way the petroleum industry prices its products. As participation in the No. 2 heating oil market by the petroleum industry has increased, it is be-

lieved that futures prices are becoming more widely accepted indicators of free market product values than are spot market quotations. Normal delivery contracts can be based upon futures market prices instead of "posted" spot market prices, as is now the case. In addition, major oil companies may begin using futures market prices to determine internal transfer prices between affiliates. Finally, the once common fixed-price oil contract could re-emerge due to futures market hedging.

Summary Statistics



Crude Oil¹ and Petroleum Products Overview

		Field Production			Stock Withdrawal ²			Ending Stocks ³
		Total Domestic ⁴	Crude Oil	Natural Gas Plant Production	Crude Oil ⁵	Petroleum Products	Petroleum Products Supplied	Crude Oil ⁵ and Petroleum Products
Thousand Barrels per Day								Millions of Barrels
1973	AVERAGE	10,975	9,208	1,738	11	-146	17,308	1,008
1974	AVERAGE	10,498	8,774	1,688	-62	-117	16,653	1,074
1975	AVERAGE	10,045	8,375	1,633	-17	-145	16,322	1,133
1976	AVERAGE	9,774	8,132	1,603	-39	96	17,461	1,112
1977	AVERAGE	9,913	8,245	1,618	-170	-378	18,431	1,312
1978	AVERAGE	10,328	8,707	1,567	-78	172	18,847	1,278
1979	AVERAGE	10,179	8,552	1,584	-148	-25	18,513	1,341
1980	January	10,377	8,675	1,648	-594	270	18,851	1,351
	February	10,402	8,705	1,656	-292	563	18,817	1,343
	March	10,303	8,698	1,568	-47	-99	17,377	1,348
	April	10,358	8,685	1,630	-412	-229	16,784	1,367
	May	10,298	8,635	1,615	-117	-520	16,238	1,387
	June	10,164	8,554	1,561	65	-869	16,187	1,411
	July	10,113	8,547	1,524	88	-556	16,008	1,425
	August	9,974	8,414	1,519	-274	-473	15,753	1,449
	September	10,184	8,619	1,515	307	-259	16,598	1,447
	October	10,092	8,532	1,516	-191	756	16,995	1,430
	November	10,109	8,495	1,571	-8	-84	16,702	1,432
	December	10,204	8,606	1,560	304	993	18,410	1,392
	AVERAGE	10,214	8,597	1,573	-98	-42	17,056	
1981	January	10,231	8,540	1,652	50	1,159	18,430	1,388
	February	10,294	8,604	1,653	-278	250	16,989	1,389
	March	10,272	8,613	1,624	-632	224	15,907	1,401
	April	10,195	8,557	1,599	-595	148	15,350	1,415
	May	10,160	8,501	1,593	-391	-374	15,353	1,438
	June	10,287	8,629	1,594	-135	406	16,095	1,430
	July	10,098	8,500	1,548	-360	91	15,682	1,439
	August	10,243	8,583	1,614	397	-999	15,263	1,457
	September	10,281	8,604	1,612	-285	-341	15,655	1,476
	October	10,225	8,563	1,598	-760	477	15,822	1,485
	November	10,269	8,586	1,630	-325	-233	15,593	1,501
	December	10,220	8,585	1,590	-170	745	16,596	1,484
	AVERAGE	10,230	8,572	1,609	-290	130	16,058	
1982	January	10,257	8,669	1,548	-236	1,129	15,890	1,461
	February	10,261	8,690	1,524	-216	1,268	15,941	1,431
	March	10,212	8,597	1,570	-65	1,049	15,560	1,401
	April	10,296	8,652	1,588	107	1,594	16,048	1,350
	May	10,223	8,660	1,520	49	-34	14,845	1,349
	June	10,242	8,681	1,505	86	-515	14,931	1,362
	July*	10,228	R 8,649	1,521	R -155	R -865	R 14,771	R 1,394
	August**	NA	8,731	NA	-401	-290	14,610	1,415
AVERAGE		NA	8,666	NA	-104	405	15,316	

¹ Includes lease condensate.

² A negative number indicates an increase in stocks and a positive number indicates a decrease.

³ Ending stocks for 1973-1979 are totals as of December 31.

⁴ Includes crude oil, natural gas plant production, other hydrocarbons and alcohol.

⁵ Includes stocks located in the Strategic Petroleum Reserve.

Totals may not equal sum of components due to independent rounding.

NA = Not available. R = Revised data.

* See Explanatory Note 5.1.

** Preliminary statistics. See Explanatory Note 2.7.

Note: Annual stock changes for 1975 and 1981 were calculated using expanded survey coverage.

Geographic coverage: The 50 United States and the District of Columbia.

Sources: See "Sources" at the end of this section.

Crude Oil¹ and Petroleum Products Overview (continued)

		Imports ²			Exports ³			Net ⁵ Imports
		Total	Crude Oil ⁴	Petroleum Products	Total	Crude Oil	Petroleum Products	
Thousand Barrels per Day								
1973	AVERAGE	6,256	3,244	3,012	231	2	229	6,025
1974	AVERAGE	6,112	3,477	2,635	221	3	218	5,892
1975	AVERAGE	6,056	4,105	1,951	209	6	204	5,846
1976	AVERAGE	7,313	5,287	2,026	223	8	215	7,090
1977	AVERAGE	8,807	6,615	2,193	243	50	193	8,565
1978	AVERAGE	8,363	6,356	2,008	362	158	204	8,002
1979	AVERAGE	8,456	6,519	1,937	472	235	237	7,984
1980	January	8,598	6,406	2,192	550	322	228	8,048
	February	7,945	6,013	1,931	558	332	227	7,386
	March	7,452	5,695	1,757	573	330	243	6,879
	April	7,106	5,598	1,508	434	192	241	6,672
	May	6,579	5,106	1,472	591	326	266	5,987
	June	6,894	5,480	1,414	654	365	289	6,240
	July	6,257	4,843	1,414	531	238	293	5,727
	August	6,192	4,803	1,389	319	78	241	5,873
	September	6,239	4,707	1,532	557	322	235	5,682
	October	6,379	4,768	1,611	598	309	288	5,781
	November	6,408	4,680	1,728	549	289	260	5,858
	December	6,894	5,082	1,812	622	343	279	6,272
		AVERAGE	6,909	5,263	1,646	544	287	258
1981	January	6,827	4,932	1,895	558	339	219	6,270
	February	6,772	4,873	1,899	569	198	371	6,203
	March	6,028	4,521	1,507	586	210	376	5,442
	April	5,668	4,338	1,330	570	198	372	5,098
	May	5,775	4,287	1,489	595	312	283	5,180
	June	5,435	4,061	1,375	420	123	297	5,015
	July	5,816	4,296	1,521	571	257	314	5,245
	August	5,767	4,179	1,588	644	204	440	5,123
	September	6,365	4,740	1,624	519	194	325	5,845
	October	5,959	4,380	1,579	738	226	512	5,221
	November	5,741	4,046	1,695	701	278	423	5,041
	December	5,843	4,137	1,706	656	189	467	5,187
		AVERAGE	5,996	4,396	1,599	595	228	367
1982	January	5,232	3,648	1,585	829	238	591	4,404
	February	4,691	2,949	1,742	804	304	499	3,887
	March	4,461	2,856	1,606	882	321	561	3,579
	April	4,286	2,813	1,474	786	174	611	3,501
	May	4,784	3,314	1,471	803	262	542	3,981
	June	5,227	3,782	1,445	703	94	609	4,524
	July*	R 5,763	R 4,245	R 1,518	741	229	512	5,022
	August**	4,899	3,638	1,261	NA	NA	NA	NA
		AVERAGE	4,922	3,412	1,510	NA	NA	NA

¹ Includes lease condensate.

² Includes shipments from United States possessions and territories.

³ Includes shipments to United States possessions and territories.

⁴ Includes crude oil for storage in the Strategic Petroleum Reserve.

⁵ Net Imports = Imports minus Exports.

Totals may not equal sum of components due to independent rounding.

NA = Not available. R = Revised data.

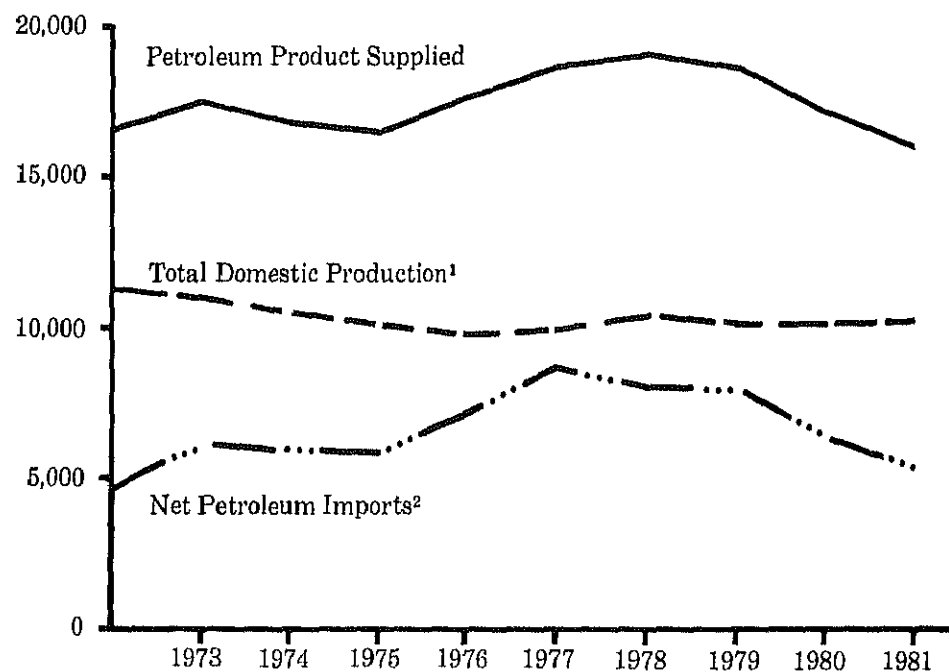
* See Explanatory Note 5.1.

** Preliminary Statistics. See Explanatory Note 2.7.

Geographic coverage: The 50 United States and the District of Columbia.

Sources: See "Sources" at the end of this section.

Petroleum Overview, Annual (Thousand Barrels per Day)



¹Includes crude oil and natural gas plant production.

²Includes SPR imports.

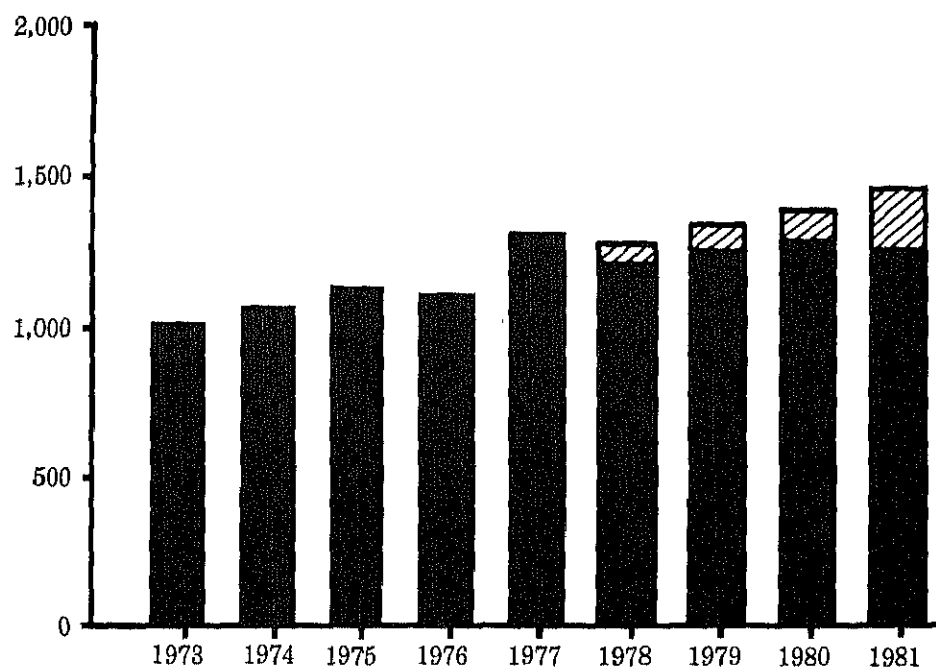
Source table: "Crude Oil and Petroleum Products Overview."

Crude Oil and Petroleum Products Ending Stocks, Annual (Millions of Barrels)

Legend

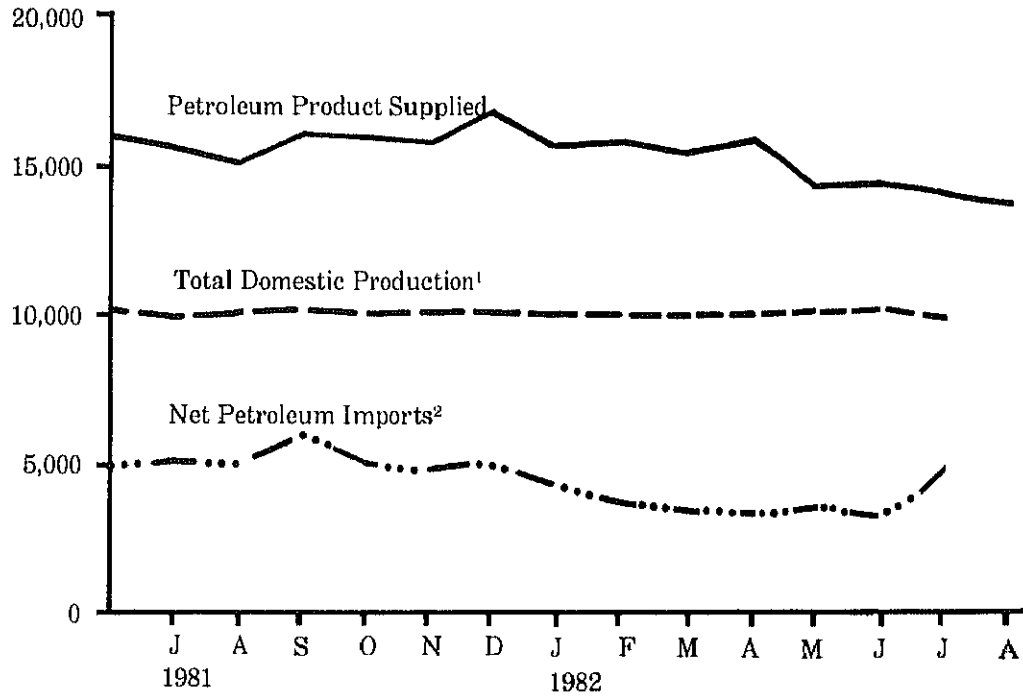
▨ SPR Crude Oil

■ Crude Oil and Petroleum Products, Excluding SPR



Source tables: "Crude Oil and Petroleum Products Overview" and "Crude Oil Supply and Disposition."

Petroleum Overview, Monthly (Thousand Barrels per Day)



¹Includes crude oil and natural gas plant production.

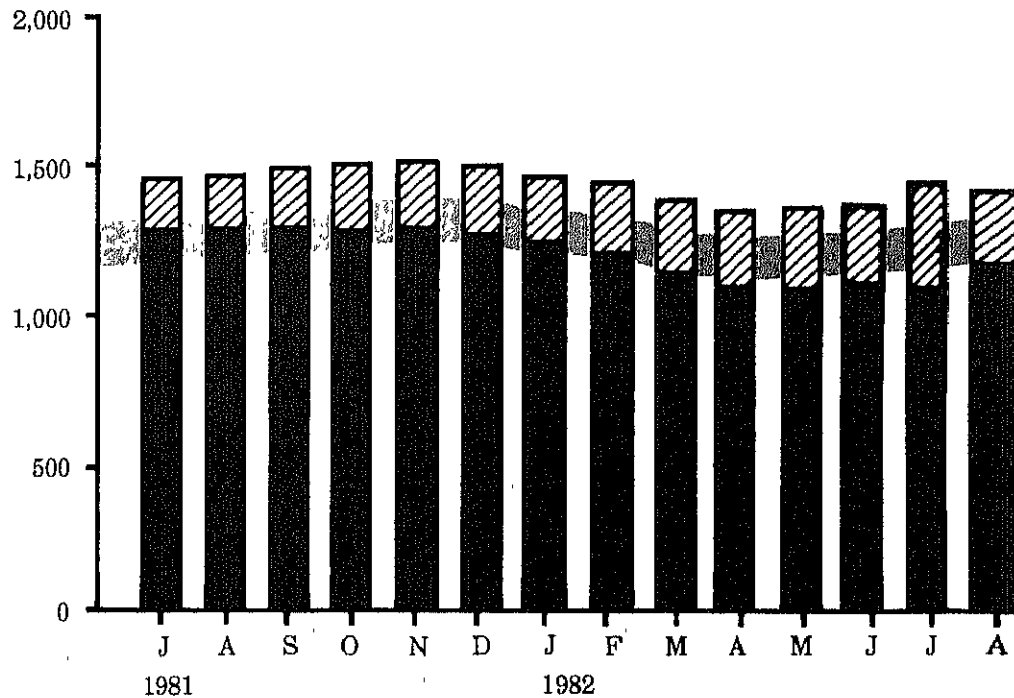
²Includes SPR imports.

Source table: "Crude Oil and Petroleum Products Overview."

Crude Oil and Petroleum Product Ending Stocks, Monthly (Millions of Barrels)

Legend

- SPR Crude Oil
- Crude Oil and Petroleum Products, Excluding SPR
- Average Stock Range¹



¹Average stock range (excluding SPR) based on 3 years of data. See Explanatory Note 2.5.

Source tables: "Crude Oil and Petroleum Products Overview" and "Crude Oil Supply and Disposition."

Crude Oil¹ Supply and Disposition

		Supply						
		Field Production		Imports ²			Stock Withdrawal ³	
		Total Domestic	Alaskan	Total	SPR ⁴	Other	SPR ⁴	Other
		Thousand Barrels per Day						
1973	AVERAGE	9,208	198	3,244		3,244		11
1974	AVERAGE	8,774	193	3,477		3,477		-62
1975	AVERAGE	8,375	191	4,105		4,105		-17
1976	AVERAGE	8,132	173	5,287		5,287		-39
1977	AVERAGE	8,245	484	6,615	21	6,594	-20	-150
1978	AVERAGE	8,707	1,229	6,356	162	6,195	-163	84
1979	AVERAGE	8,552	1,401	6,519	67	6,452	-67	-81
1980								
	January	8,675	1,634	6,406	0	6,406	0	-584
	February	8,705	1,630	6,013	0	6,013	0	-292
	March	8,698	1,647	5,695	0	5,695	0	-47
	April	8,685	1,649	5,598	0	5,598	0	-412
	May	8,635	1,627	5,106	0	5,106	0	-117
	June	8,554	1,626	5,480	0	5,480	0	65
	July	8,547	1,612	4,843	0	4,843	0	88
	August	8,414	1,612	4,803	0	4,803	0	-274
	September	8,619	1,610	4,707	54	4,653	-54	361
	October	8,532	1,588	4,768	131	4,637	-123	-68
	November	8,495	1,561	4,680	142	4,538	-189	181
	December	8,806	1,602	5,082	198	4,884	-177	481
	AVERAGE	8,597	1,617	5,263	44	5,219	-45	-52
1981								
	January	8,540	1,606	4,932	106	4,826	-151	201
	February	8,604	1,619	4,873	80	4,793	-127	-150
	March	8,613	1,618	4,521	140	4,382	-155	-477
	April	8,557	1,608	4,338	272	4,066	-444	-151
	May	8,501	1,580	4,287	386	3,901	-513	122
	June	8,629	1,632	4,061	318	3,743	-434	299
	July	8,500	1,605	4,296	175	4,121	-324	-36
	August	8,583	1,602	4,179	257	3,922	-372	769
	September	8,604	1,607	4,740	435	4,305	-486	201
	October	8,563	1,596	4,380	453	3,927	-501	-259
	November	8,586	1,614	4,046	271	3,774	-259	-66
	December	8,585	1,623	4,137	165	3,971	-252	82
	AVERAGE	8,572	1,609	4,396	256	4,141	-336	46
1982								
	January	8,669	1,712	3,648	170	3,478	-159	-77
	February	8,690	1,715	2,849	159	2,790	-213	-3
	March	8,597	1,702	2,856	185	2,671	-235	170
	April	8,652	1,687	2,813	190	2,623	-233	341
	May	8,660	1,725	3,314	204	3,110	-176	225
	June	8,681	1,675	3,782	105	3,678	-105	191
	July*	R 8,649	R 1,715	R 4,245	R 97	R 4,147	R -97	R -58
	August**	8,731	1,701	3,638	199	3,439	-199	-202
	AVERAGE	8,666	1,704	3,412	164	3,248	-177	73

¹ Includes lease condensate.

² Includes shipments from United States possessions and territories.

³ A negative number indicates an increase in stocks and a positive number indicates a decrease.

⁴ Strategic Petroleum Reserve.

Totals may not equal sum of components due to independent rounding.

NA = Not available. R = Revised data.

* See Explanatory Note 5.2.

** Preliminary statistics. See Explanatory Note 2.7.

Note: Annual stock changes for 1975 and 1981 were calculated using expanded survey coverage. Geographic coverage: The 50 United States and the District of Columbia.

Sources: See "Sources" at the end of this section.

Crude Oil¹ Supply and Disposition (continued)

		Supply (Continued)		Disposition		Ending Stocks ²		
		Unac- counted for Crude Oil	Crude Used Directly and Losses	Refinery Inputs	Exports ³	Total Crude Oil	SPR ⁴	Other Primary
		Thousand Barrels per Day				Millions of Barrels		
1973	AVERAGE	3	-32	12,431	2	242		242
1974	AVERAGE	-25	-28	12,133	3	265		265
1975	AVERAGE	17	-30	12,442	6	271		271
1976	AVERAGE	77	-33	13,416	8	285		285
1977	AVERAGE	-6	-30	14,602	50	348	7	340
1978	AVERAGE	-57	-30	14,739	158	376	67	309
1979	AVERAGE	-11	-29	14,648	235	430	91	339
1980	January	166	-31	14,301	322	449	91	358
	February	124	-31	14,187	332	457	91	366
	March	-278	-30	13,709	330	459	91	367
	April	-165	-29	13,484	192	471	91	380
	May	55	-28	13,326	326	475	91	383
	June	1	-30	13,705	365	473	91	361
	July	52	-29	13,264	238	470	91	379
	August	147	-28	12,984	78	478	91	387
	September	27	-26	13,313	322	469	93	376
	October	-3	-25	12,772	309	475	97	379
	November	266	-26	13,119	289	475	102	373
	December	24	-26	13,648	343	466	108	358
	AVERAGE	34	-28	13,481	287			
1981	January	113	-49	13,247	339	486	112	374
	February	-41	-58	12,902	198	494	116	378
	March	154	-63	12,383	210	514	121	393
	April	51	-62	12,091	198	532	134	397
	May	286	-62	12,309	312	544	150	394
	June	49	-65	12,415	123	548	163	385
	July	147	-65	12,261	257	559	173	386
	August	16	-63	12,908	204	547	185	362
	September	-295	-65	12,605	194	555	199	356
	October	166	-66	12,057	226	579	215	364
	November	279	-68	12,240	278	589	223	366
	December	52	-67	12,349	189	594	230	363
	AVERAGE	83	-63	12,470	228			
1982	January	-138	-66	11,638	238	606	235	371
	February	199	-66	11,252	304	612	241	371
	March	278	-68	11,277	321	614	249	366
	April	56	-68	11,386	174	611	256	355
	May	105	-65	11,801	262	609	261	348
	June	110	-67	12,498	94	607	264	343
	July*	1	-63	R 12,447	229	R 612	267	R 345
	August**	NA	NA	11,945	NA	630	274	356
	AVERAGE	NA	NA	11,786	NA			

¹ Includes lease condensate.

² Ending stocks for 1973-1979 are totals as of December 31.

³ Includes shipments to United States possessions and territories.

⁴ Strategic Petroleum Reserve.

Totals may not equal sum of components due to independent rounding.

NA = Not available. R = Revised data.

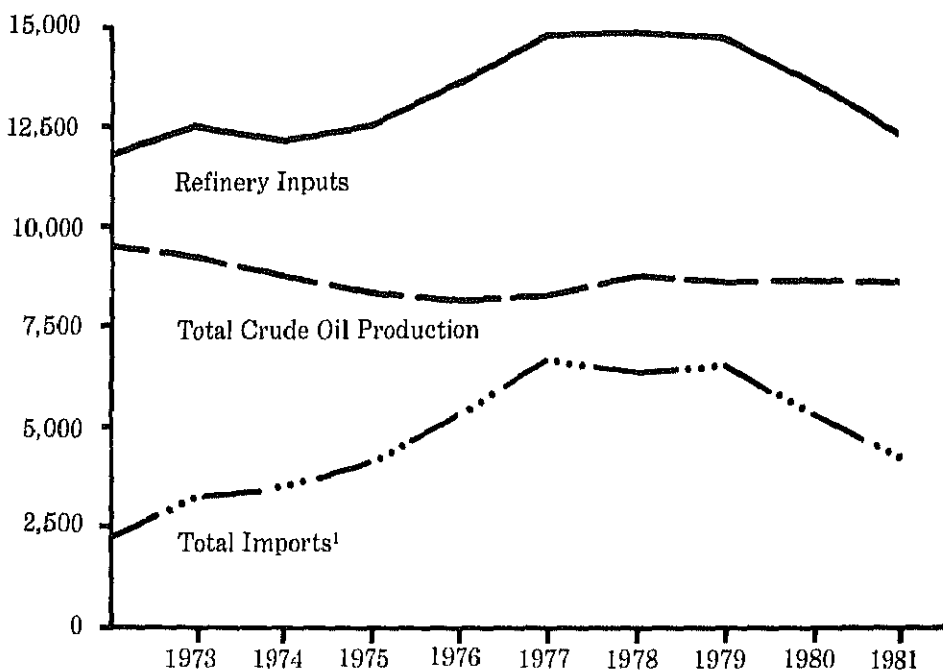
* See Explanatory Note 5.2.

** Preliminary statistics. See Explanatory Note 2.7.

Geographic coverage: The 50 United States and the District of Columbia.

Sources: See "Sources" at the end of this section.

Crude Oil Supply and Disposition, Annual (Thousand Barrels per Day)



¹Includes SPR imports.

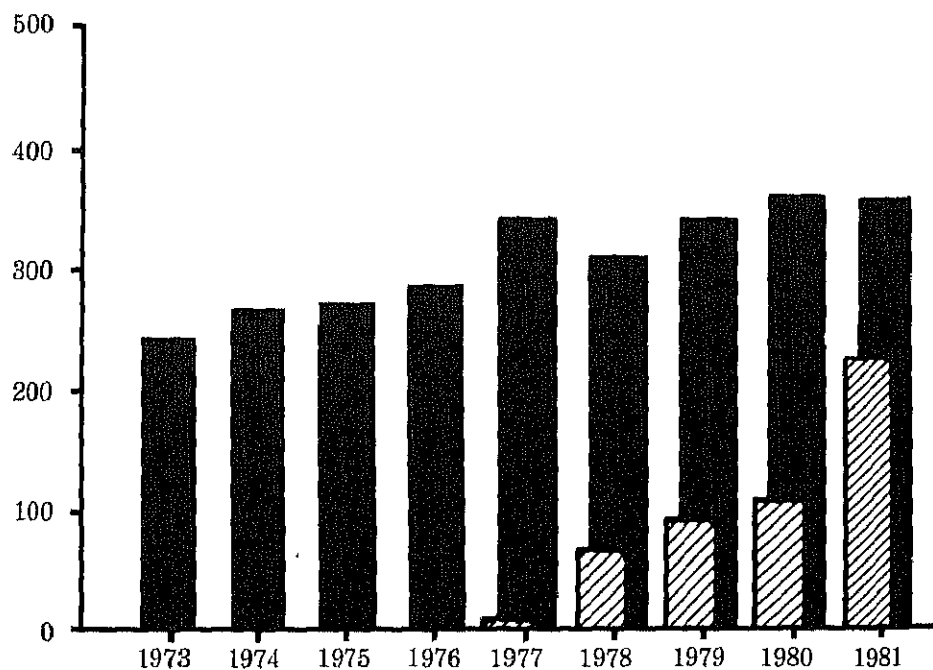
Source table: "Crude Oil Supply and Disposition."

Crude Oil Ending Stocks, Annual (Millions of Barrels)

Legend

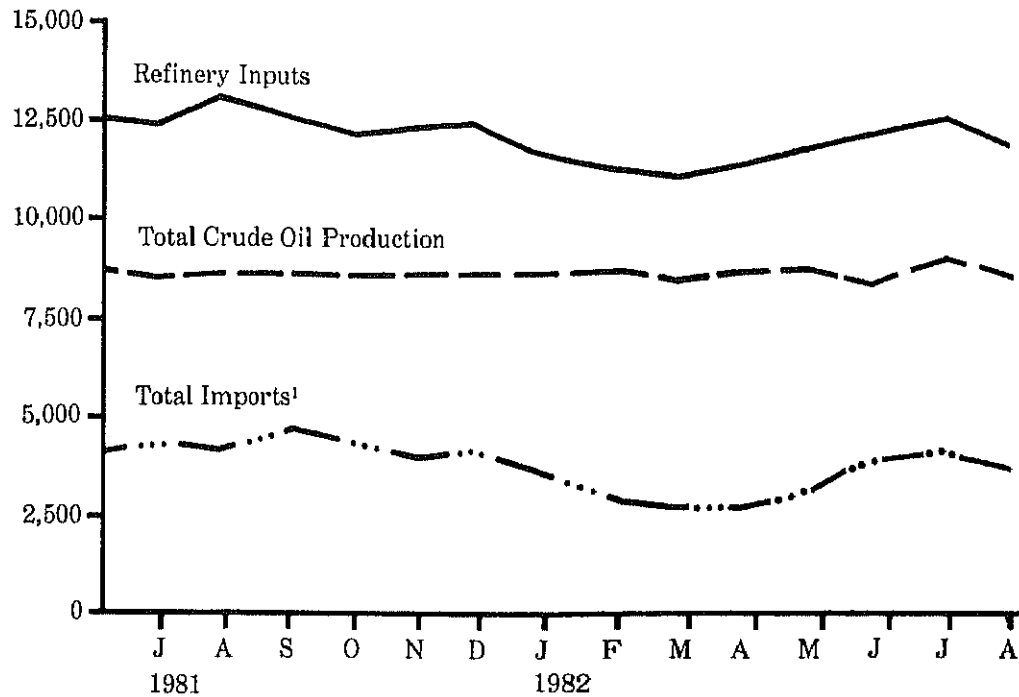
▨ SPR

■ Other Primary



Source table: "Crude Oil Supply and Disposition."

Crude Oil Supply and Disposition, Monthly (Thousand Barrels per Day)



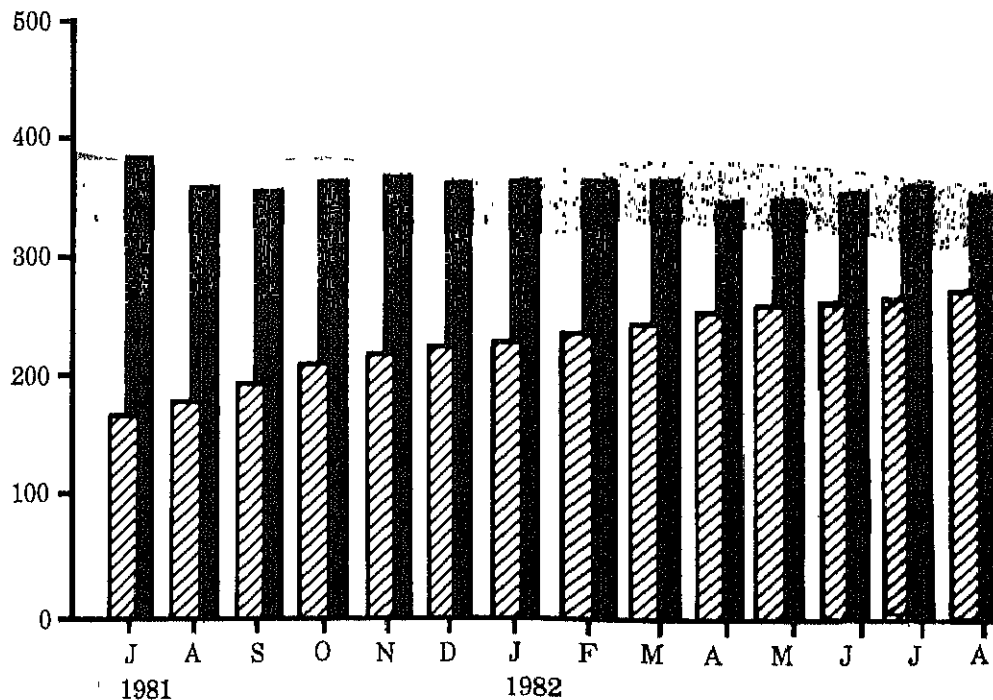
¹Includes SPR imports.

Source table: "Crude Oil Supply and Disposition."

Crude Oil Ending Stocks, Monthly (Millions of Barrels)

Legend

- SPR
- Other Primary
- Average Stock Range¹



¹Average stock range (excluding SPR) based on 3 years of data. See Explanatory Note 2.5.

Source table: "Crude Oil Supply and Disposition."

Finished Motor Gasoline Supply and Disposition

		Supply			Disposition				Ending Stocks ¹	
		Total Production	Imports ²	Stock With-drawal ^{2 3}	Exports	Product Supplied			Total Motor Gasoline ⁴	Finished Motor Gasoline
						Total	Unleaded ⁵	Unleaded		
Thousand Barrels per Day								Percent of Total	Millions of Barrels	
1973	AVERAGE	6,535	134	9	4	6,674	NA	NA	209	
1974	AVERAGE	6,360	204	-24	2	6,537	NA	NA	218	
1975	AVERAGE	6,520	184	-28	2	6,675	NA	NA	235	
1976	AVERAGE	6,841	131	10	3	6,978	NA	NA	231	
1977	AVERAGE	7,033	217	-72	2	7,177	1,976	27.5	258	
1978	AVERAGE	7,169	190	54	1	7,412	2,521	34.0	238	
1979	AVERAGE	6,852	181	2	(⁵)	7,034	2,798	39.8	237	
1980	January	6,991	141	-809	1	6,323	2,718	43.0	262	
	February	6,866	154	-423	(⁵)	6,596	2,969	45.0	275	
	March	6,519	155	-267	(⁵)	6,406	3,032	47.3	283	
	April	6,284	155	362	1	6,800	3,021	44.4	272	
	May	6,316	132	283	1	6,729	2,980	44.3	263	
	June	6,589	148	-59	1	6,657	3,099	46.6	265	
	July	6,465	149	-132	3	6,743	3,131	46.4	261	
	August	6,452	141	56	1	6,648	3,135	47.2	259	
	September	6,383	106	28	7	6,510	3,054	46.9	258	
	October	6,131	152	380	1	6,662	3,110	46.7	247	
	November	6,467	126	-359	(⁵)	6,234	3,123	50.1	257	
	December	6,644	121	-133	1	6,632	3,421	51.6	261	
		AVERAGE	6,506	140	-66	1	6,579	3,067	46.6	
1981	January	6,715	138	-421	(⁵)	6,431	3,141	48.8	276	227
	February	6,308	111	-118	1	6,301	3,095	49.1	284	230
	March	6,213	171	-81	(⁵)	6,303	3,097	49.1	285	232
	April	6,114	186	303	(⁵)	6,602	3,284	49.7	272	223
	May	6,122	150	344	1	6,615	3,115	47.1	259	213
	June	6,220	186	622	1	7,028	3,419	48.6	242	194
	July	6,405	151	268	(⁵)	6,823	3,424	50.2	228	186
	August	6,611	124	-95	3	6,637	3,344	50.4	233	189
	September	6,564	169	-70	2	6,662	3,338	50.1	237	191
	October	6,426	147	7	3	6,578	3,257	49.5	236	190
	November	6,564	148	-338	1	6,373	3,198	50.2	248	201
	December	6,586	197	-91	11	6,681	3,444	51.5	253	203
		AVERAGE	6,405	157	28	2	6,588	3,264	49.5	
1982	January	6,181	114	-358	18	5,920	3,033	51.2	262	214
	February	5,917	133	28	8	6,070	3,145	51.8	262	213
	March	6,004	183	469	44	6,612	3,396	51.4	248	199
	April	6,104	177	641	33	6,890	3,494	50.7	223	180
	May	6,322	163	188	23	6,650	3,415	51.3	215	174
	June	6,767	195	-136	14	6,812	3,561	52.3	220	178
	July*	R 6,788	200	-165	24	R 6,799	3,574	52.6	226	183
	August**	6,337	NA	NA	NA	6,708	NA	NA	224	NA
		AVERAGE	6,305	NA	NA	NA	6,561	NA	NA	

¹ Ending stocks for 1973-1979 are totals as of December 31.

² Beginning in 1981 excludes blending components.

³ A negative number indicates an increase in stocks and a positive number indicates a decrease.

⁴ Includes motor gasoline blending components.

⁵ Includes gasohol.

Totals may not equal sum of components due to independent rounding.

(⁵) = Less than 500 barrels. NA = Not available. R = Revised data.

* See Explanatory Note 5.3.

** Preliminary statistics. See Explanatory Note 2.7.

Notes: Beginning in January 1981, the Energy Information Administration modified survey forms, definitions, and processing procedures. See Explanatory Note 4 on Changes for the effects on motor gasoline statistics.

Annual stock changes for 1975 and 1981 were calculated using expanded survey coverage.

Geographic coverage: The 50 United States and the District of Columbia.

Sources: See "Sources" at the end of this section.

Distillate Fuel Oil Supply and Disposition

		Supply				Disposition		Ending Stocks ¹
		Total Production	Imports	Stock Withdrawal ²	Crude Used Directly	Exports	Product Supplied	
		Thousand Barrels per Day						Millions of Barrels
1973	AVERAGE	2,822	392	-115	2	9	3,092	196
1974	AVERAGE	2,669	289	-9	2	2	2,948	200
1975	AVERAGE	2,654	155	40	2	1	2,851	209
1976	AVERAGE	2,924	146	62	1	1	3,133	186
1977	AVERAGE	3,278	250	-176	1	1	3,352	250
1978	AVERAGE	3,167	173	93	1	3	3,432	216
1979	AVERAGE	3,153	193	-34	1	3	3,311	229
1980	January	3,014	179	526	1	7	3,714	212
	February	2,766	237	716	1	8	3,712	192
	March	2,558	193	445	1	19	3,179	178
	April	2,461	154	21	2	2	2,635	177
	May	2,474	126	-199	1	1	2,402	183
	June	2,647	108	-439	1	(³)	2,317	197
	July	2,690	117	-557	2	3	2,249	214
	August	2,482	77	-403	2	(³)	2,137	226
	September	2,686	101	-201	2	(³)	2,587	232
	October	2,590	115	215	1	(³)	2,920	226
	November	2,703	133	111	1	(³)	2,949	222
	December	2,891	166	556	1	(³)	3,615	205
	AVERAGE	2,662	142	64	1	3	2,866	
1981	January	2,989	273	836	11	(³)	4,109	179
	February	2,809	325	246	11	17	3,373	173
	March	2,484	147	264	9	(³)	2,904	164
	April	2,418	116	-9	10	3	2,532	165
	May	2,454	179	-232	10	(³)	2,411	172
	June	2,501	225	-270	9	(³)	2,464	180
	July	2,395	179	-204	10	2	2,378	186
	August	2,656	174	-450	8	(³)	2,388	200
	September	2,610	129	-235	10	1	2,513	207
	October	2,485	119	197	9	5	2,803	201
	November	2,716	124	36	11	6	2,880	200
	December	2,856	95	277	11	26	3,212	192
	AVERAGE	2,613	173	38	10	5	2,829	
1982	January	2,615	96	780	10	90	3,410	166
	February	2,447	130	689	11	90	3,187	147
	March	2,294	48	612	10	84	2,881	128
	April	2,357	59	631	13	84	2,996	109
	May	2,618	74	-184	10	75	2,444	114
	June	2,731	100	-335	10	55	2,450	125
	July*	R 2,734	R 124	R -761	11	24	R 2,084	R 148
	August**	2,537	65	-447	NA	NA	2,142	156
	AVERAGE	2,543	87	116	NA	NA	2,693	

¹ Ending stocks for 1973 - 1979 are totals as of December 31.

² A negative number indicates an increase in stocks and a positive number indicates a decrease.

Totals may not equal sum of components due to independent rounding.

(³) = Less than 500 barrels per day. NA = Not available. R = Revised data.

* See Explanatory Note 5.4.

** Preliminary Statistics. See Explanatory Note 2.7.

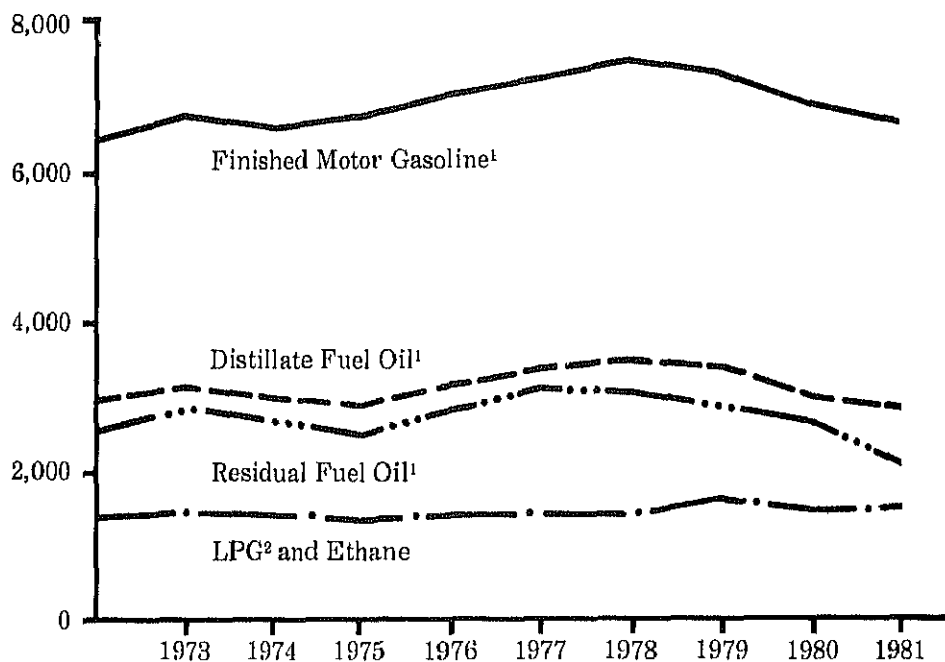
Note: Beginning in January 1981, the Energy Information Administration modified survey forms, definitions, and processing procedures. See Explanatory Note 4 on Changes for the effects on Distillate Fuel Oil statistics.

Annual stock changes for 1975 and 1981 were calculated using expanded survey coverage.

Geographic coverage: The 50 United States and the District of Columbia.

Sources: See "Sources" at the end of this section.

Products Supplied, Annual (Thousand Barrels per Day)



¹Figures for 1979 and 1980 recast to account for data system changes in 1981. See Explanatory Note 4.

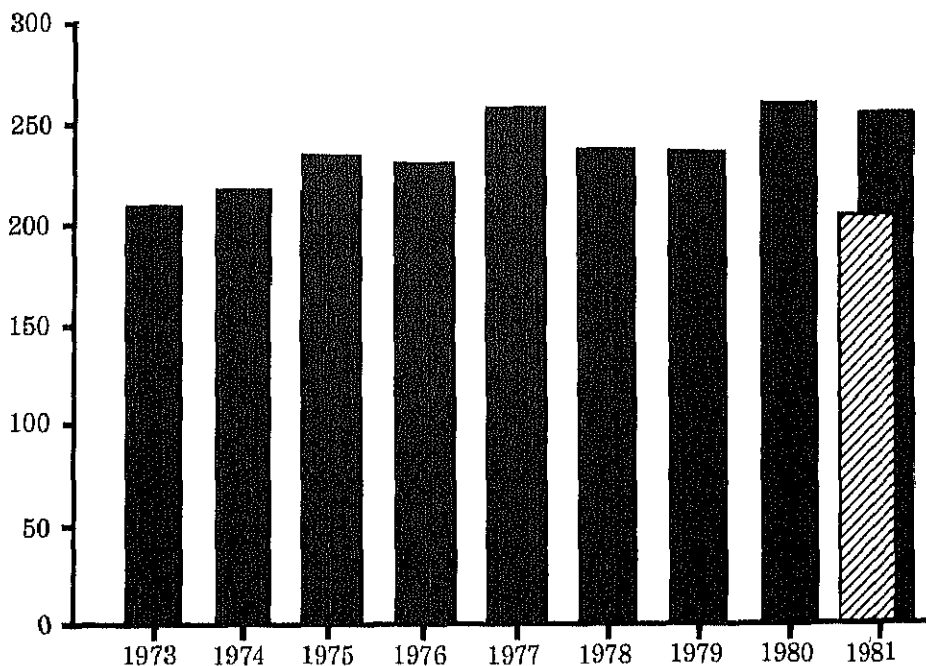
²Liquefied Petroleum Gases.

Source tables: "Finished Motor Gasoline Supply and Disposition," "Distillate Fuel Oil Supply and Disposition," "Residual Fuel Oil Supply and Disposition," "Liquefied Petroleum Gases and Ethane Supply and Disposition."

Motor Gasoline¹ Ending Stocks, Annual (Millions of Barrels)

Legend

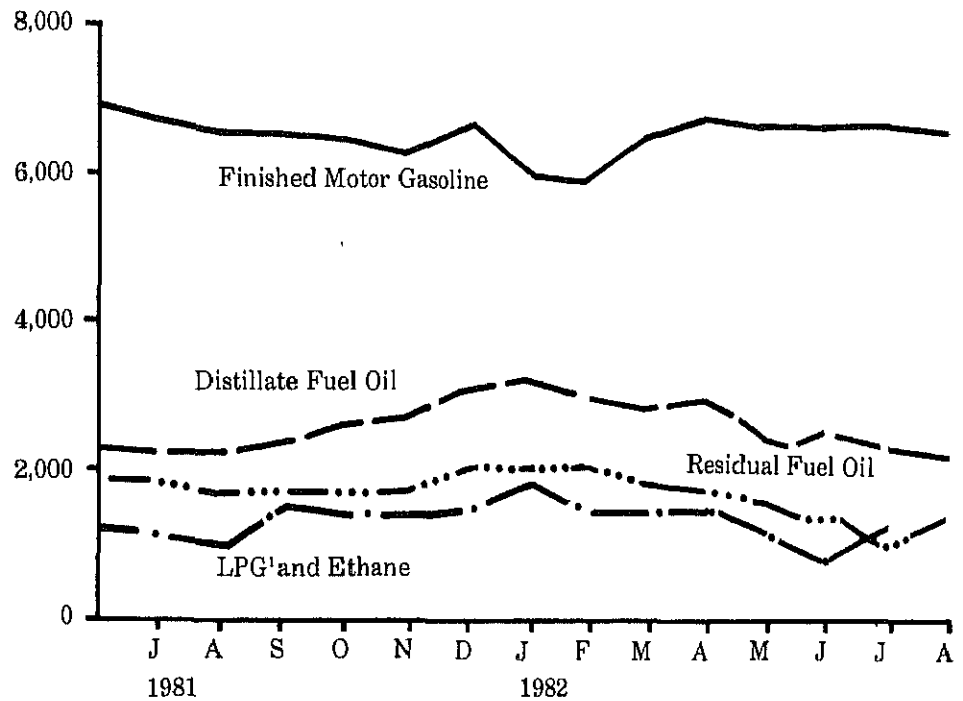
- Total
- ▨ Finished



¹Includes finished motor gasoline blending components.

Source table: "Finished Motor Gasoline Supply and Disposition."

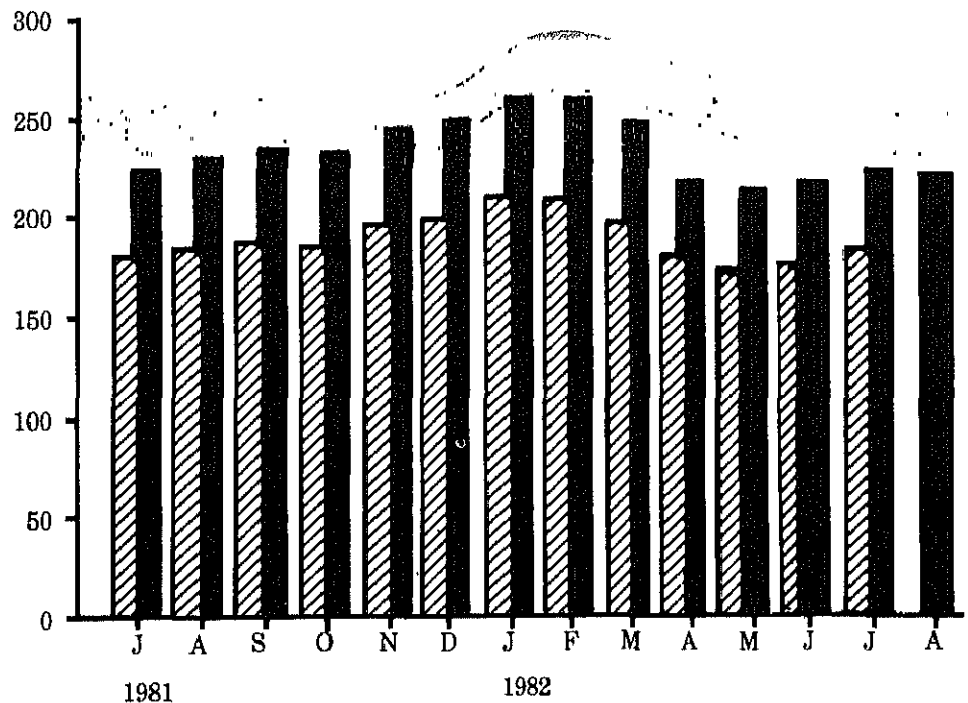
Products Supplied, Monthly (Thousand Barrels per Day)



¹Liquefied Petroleum Gases.
Source tables: "Finished Motor Gasoline Supply and Disposition," "Distillate Fuel Oil Supply and Disposition," "Residual Fuel Oil Supply and Disposition," "Liquefied Petroleum Gases and Ethane Supply and Disposition."

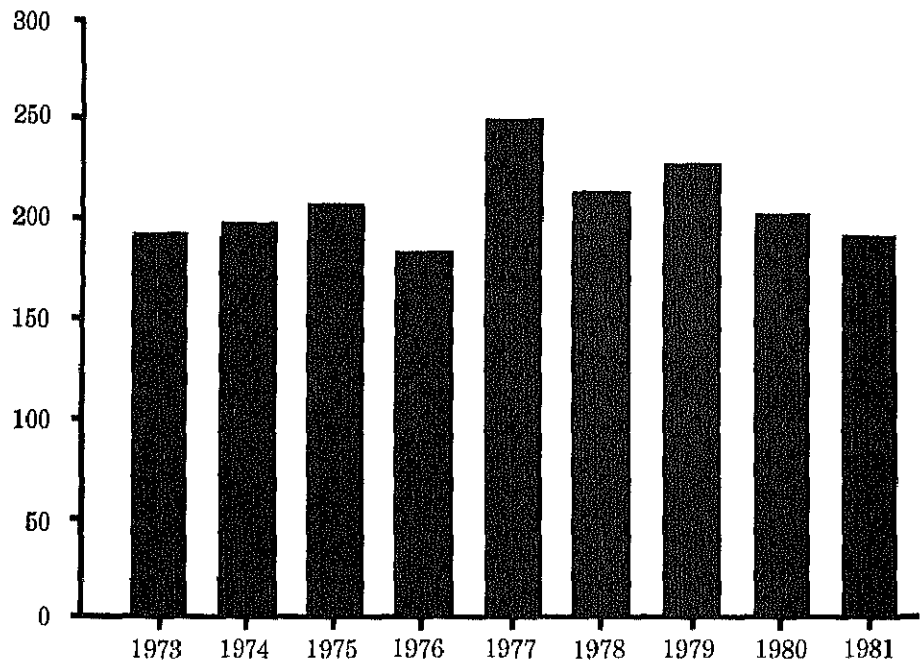
Motor Gasoline Ending Stocks, Monthly (Millions of Barrels)

Legend
 ■ Total Motor Gasoline¹
 ▨ Finished Motor Gasoline
 ▩ Average Stock Range²



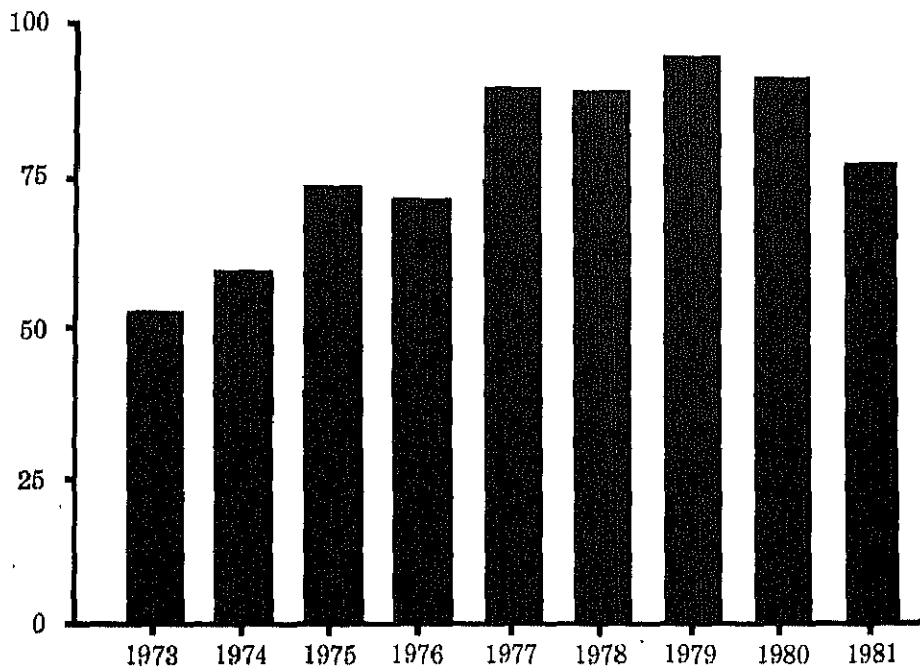
¹Includes finished motor gasoline blending components.
²Average stock range for total motor gasoline based on 3 years of data. See Explanatory Note 2.5.
Source table: "Finished Motor Gasoline Supply and Disposition."

Distillate Fuel Oil Ending Stocks, Annual (Millions of Barrels)



Source table: "Distillate Fuel Oil Supply and Disposition."

Residual Fuel Oil Ending Stocks, Annual (Millions of Barrels)

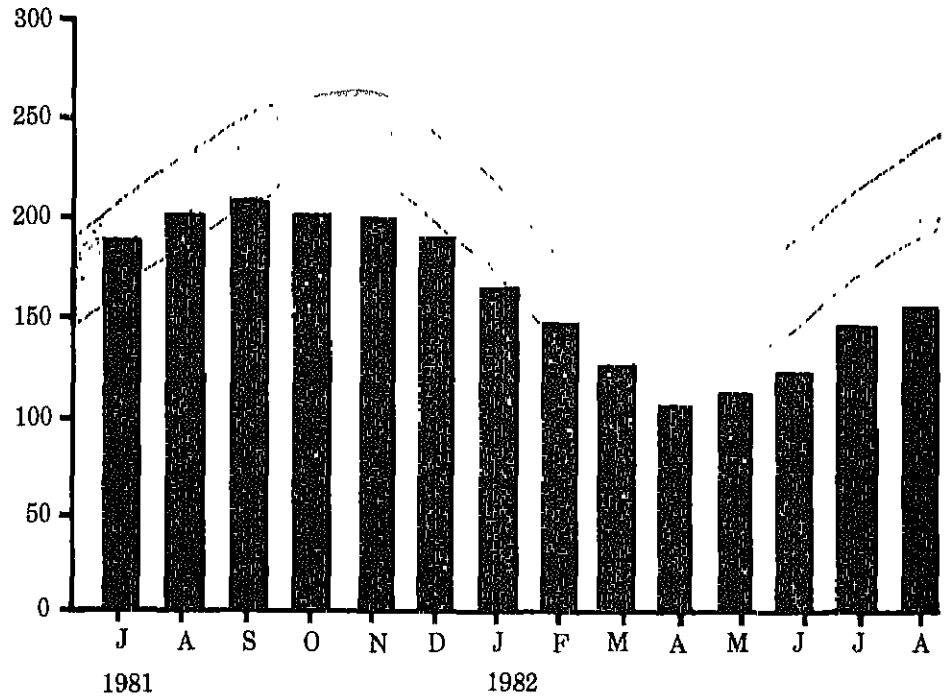


Source table: "Residual Fuel Oil Supply and Disposition."

Distillate Fuel Oil Ending Stocks, Monthly (Millions of Barrels)

Legend

■ Average Stock Range¹



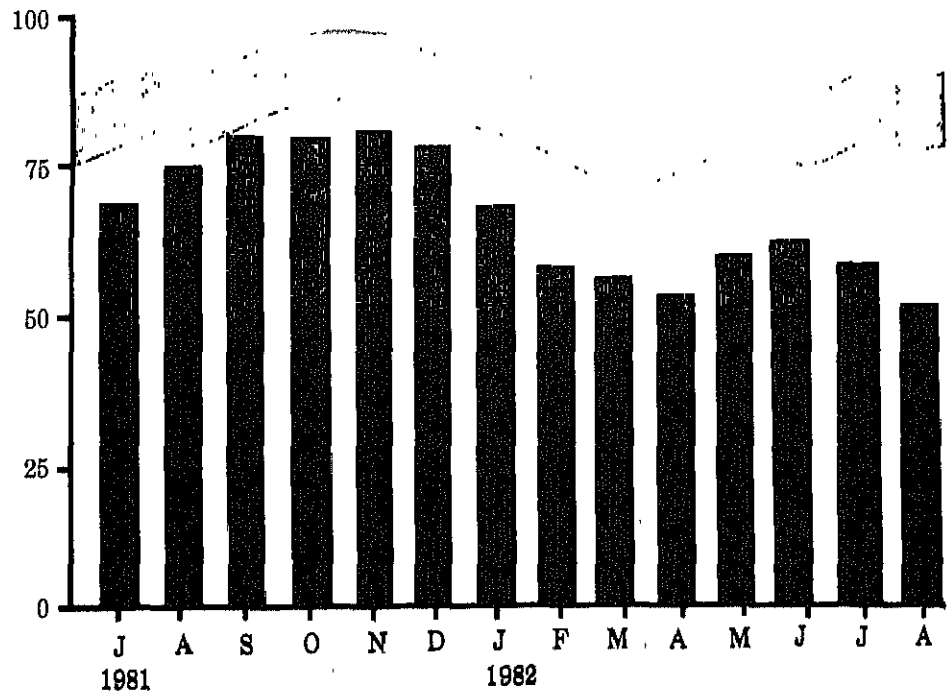
¹Average stock range based on 3 years of data. See Explanatory Note 2.5.

Source table: "Distillate Fuel Oil Supply and Disposition."

Residual Fuel Oil Ending Stocks, Monthly (Millions of Barrels)

Legend

■ Average Stock Range¹



¹Average stock range based on 3 years of data. See Explanatory Note 2.5.

Source table: "Residual Fuel Oil Supply and Disposition."

Residual Fuel Oil Supply and Disposition

		Supply				Disposition		Ending Stocks ¹
		Total Production	Imports	Stock Withdrawal ²	Crude Used Directly	Exports	Products Supplied	
		Thousand Barrels per Day						Millions of Barrels
1973	AVERAGE	971	1,853	5	17	23	2,822	53
1974	AVERAGE	1,070	1,587	-17	13	14	2,639	60
1975	AVERAGE	1,235	1,223	2	15	15	2,462	74
1976	AVERAGE	1,377	1,413	5	17	12	2,801	72
1977	AVERAGE	1,754	1,359	-48	13	6	3,071	90
1978	AVERAGE	1,667	1,355	-1	13	13	3,023	90
1979	AVERAGE	1,687	1,151	-15	12	9	2,826	96
1980	January	1,771	1,338	-51	14	5	3,067	97
	February	1,773	1,122	214	14	17	3,105	91
	March	1,584	976	87	14	2	2,658	88
	April	1,595	775	102	13	40	2,444	85
	May	1,509	812	-78	12	20	2,235	88
	June	1,575	749	-4	14	14	2,321	88
	July	1,480	787	71	13	60	2,291	86
	August	1,444	875	-43	13	2	2,286	87
	September	1,495	906	-31	10	21	2,359	88
	October	1,512	875	-100	9	70	2,227	91
	November	1,579	1,024	-74	10	88	2,451	93
	December	1,660	1,025	46	10	62	2,679	92
	AVERAGE	1,580	939	10	12	33	2,508	
1981	January	1,612	1,015	302	32	65	2,896	82
	February	1,565	954	150	44	125	2,588	78
	March	1,424	699	100	48	145	2,126	75
	April	1,320	584	66	49	151	1,868	73
	May	1,223	741	-170	49	25	1,817	78
	June	1,232	540	291	49	76	2,037	69
	July	1,174	830	2	48	82	1,971	69
	August	1,231	819	-179	50	69	1,852	75
	September	1,292	841	-176	51	126	1,882	80
	October	1,238	786	8	54	202	1,884	80
	November	1,227	880	-49	53	203	1,909	81
	December	1,329	916	110	52	157	2,250	78
	AVERAGE	1,321	800	37	48	118	2,088	
1982	January	1,183	821	328	53	235	2,150	68
	February	1,136	928	358	53	213	2,261	58
	March	1,121	910	26	53	197	1,912	57
	April	1,162	762	124	52	234	1,867	54
	May	1,127	738	-175	52	191	1,551	59
	June	1,077	643	-49	50	217	1,504	61
	July*	R 1,029	R 576	R 51	49	239	R 1,466	R 59
	August**	998	543	171	NA	NA	1,522	51
	AVERAGE	1,104	738	102	NA	NA	1,774	

¹ Ending Stocks for 1973-1979 are totals as of December 31.

² A negative number indicates an increase in stocks and a positive number indicates a decrease.

Totals may not equal sum of components due to independent rounding.

NA = Not available. R = Revised data.

* See Explanatory Note 5.4.

** Preliminary Statistics. See Explanatory Note 2.7.

Notes: Beginning in January 1981, the Energy Information Administration modified survey forms, definitions, and processing procedures.

See Explanatory Note 4 on changes for the effects on residual fuel oil statistics.

Annual stock changes for 1975 and 1981 were calculated using expanded survey coverage.

Geographic Coverage: The 50 United States and the District of Columbia.

Sources: See "Sources" at the end of this section.

Liquefied Petroleum Gases and Ethane Supply and Disposition

		Supply			Disposition			Ending Stocks ¹
		Total Production	Imports	Stock Withdrawal ²	Refinery Inputs	Exports	Product Supplied	
		Thousand Barrels per Day						Millions of Barrels
1973	AVERAGE	1,600	132	-35	220	27	1,449	99
1974	AVERAGE	1,565	123	-38	220	25	1,406	113
1975	AVERAGE	1,527	112	-35	246	26	1,333	125
1976	AVERAGE	1,535	130	24	260	25	1,404	116
1977	AVERAGE	1,566	161	-55	233	18	1,422	136
1978	AVERAGE	1,537	123	12	239	20	1,413	132
1979	AVERAGE	1,556	217	70	236	15	1,592	111
1980	January	1,560	264	461	291	30	1,963	96
	February	1,581	252	209	252	26	1,764	90
	March	1,519	214	7	211	23	1,506	90
	April	1,546	186	-339	171	19	1,203	100
	May	1,538	181	-224	182	17	1,295	107
	June	1,528	184	-319	170	18	1,205	117
	July	1,485	172	-283	209	18	1,147	126
	August	1,507	158	-296	203	17	1,149	135
	September	1,495	213	-80	228	19	1,382	137
	October	1,546	249	86	259	24	1,597	134
	November	1,549	231	82	304	23	1,635	132
	December	1,567	289	373	319	23	1,888	120
	AVERAGE	1,535	216	-27	233	21	1,469	
1981	January	1,617	306	363	352	21	1,913	117
	February	1,593	327	173	303	21	1,769	112
	March	1,551	260	-4	257	20	1,530	112
	April	1,586	214	-236	231	26	1,308	119
	May	1,587	189	-258	220	19	1,279	127
	June	1,567	206	-208	237	24	1,304	133
	July	1,507	213	-258	215	17	1,229	141
	August	1,592	195	-242	235	149	1,160	149
	September	1,622	199	-75	287	21	1,438	151
	October	1,593	287	72	320	76	1,556	149
	November	1,571	280	86	383	58	1,495	146
	December	1,468	255	379	428	50	1,624	135
	AVERAGE	1,571	244	-18	289	42	1,466	
1982	January	1,546	314	480	398	67	1,873	122
	February	1,476	291	310	327	51	1,699	114
	March	1,523	223	145	289	74	1,528	109
	April	1,566	188	107	257	77	1,527	108
	May	1,583	186	-61	235	43	1,431	108
	June	1,571	192	-109	262	106	1,286	111
	July*	1,556	227	-5	253	37	1,487	111
	AVERAGE	1,547	231	122	288	65	1,546	

¹ Ending stocks for 1973 - 1979 are totals as of December 31.

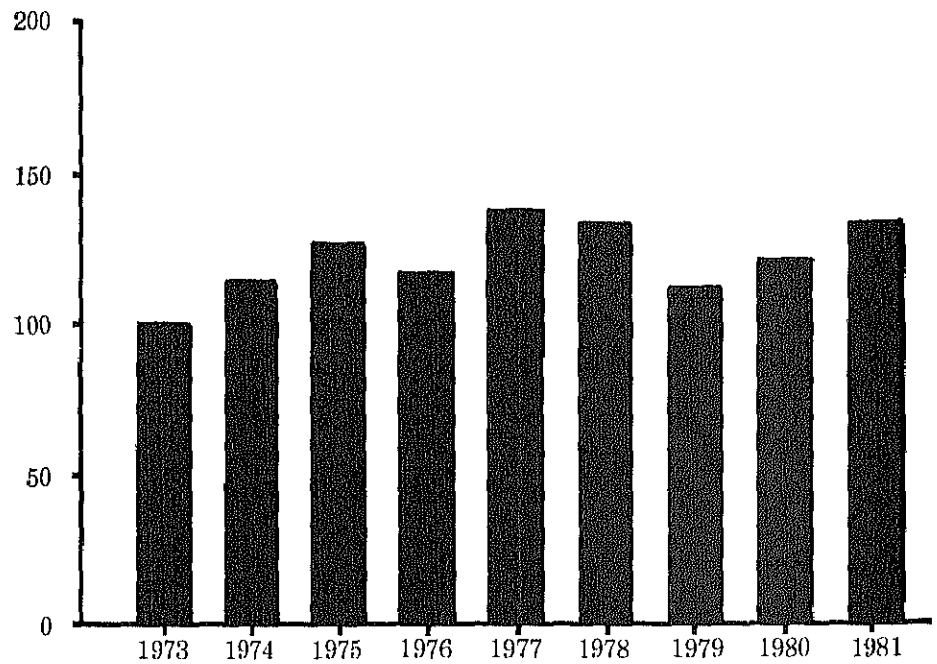
² A negative number indicates an increase in stocks and a positive number indicates a decrease. Totals may not equal sum of components due to independent rounding.

* See Explanatory Note 5.5.

Note: Annual stock changes for 1975 and 1981 were calculated using expanded survey coverage. Geographic coverage: The 50 United States and the District of Columbia.

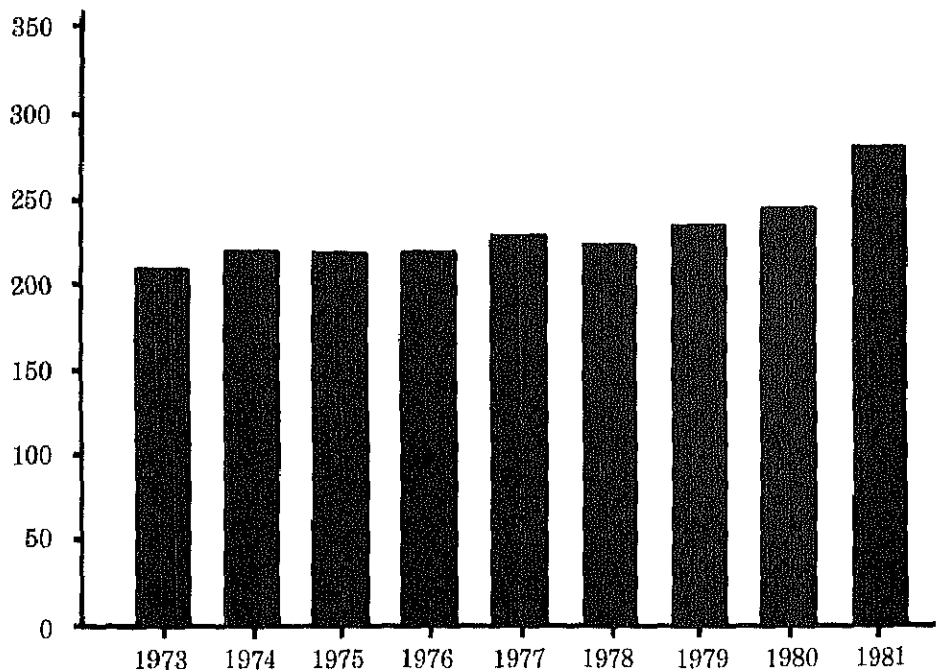
Sources: See "Sources" at the end of this section.

Liquefied Petroleum Gases and Ethane Ending Stocks, Annual
(Millions of Barrels)



Source table: "Liquefied Petroleum Gases and Ethane Supply and Disposition."

Other Petroleum Products¹ Ending Stocks, Annual
(Millions of Barrels)




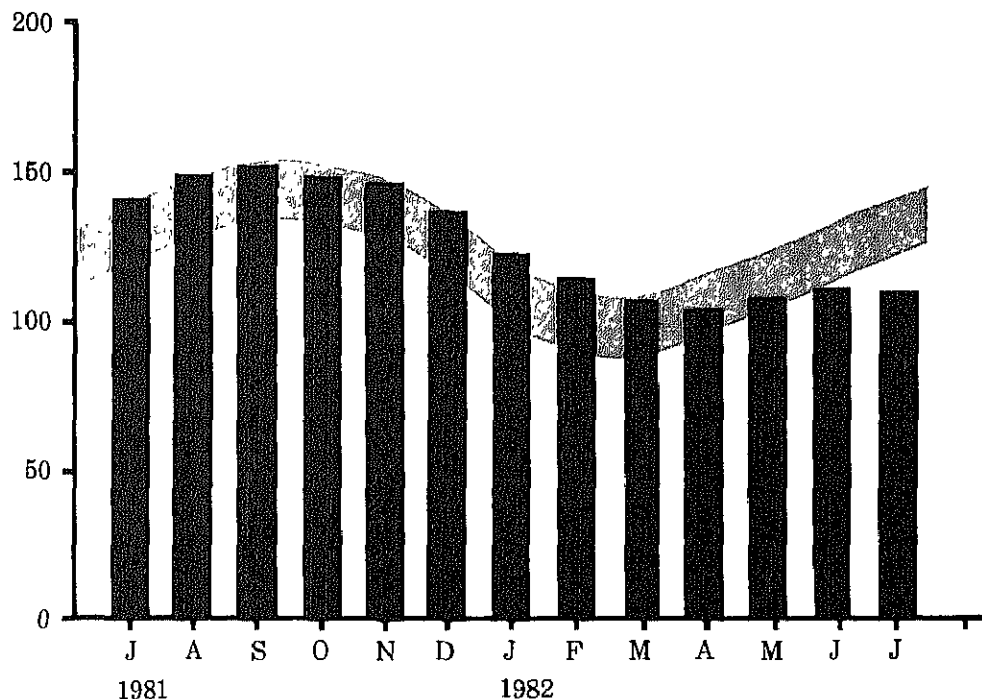
¹Includes natural gasoline and isopentane, unfinished oils, gasoline blending components, jet fuels, kerosene, lubricants, and asphalt. Some gasoline blending components not included prior to 1981.

Source table: "Other Petroleum Products Supply and Disposition."

Liquefied Petroleum Gases and Ethane Ending Stocks, Monthly (Millions of Barrels)

Legend

 Average Stock Range¹




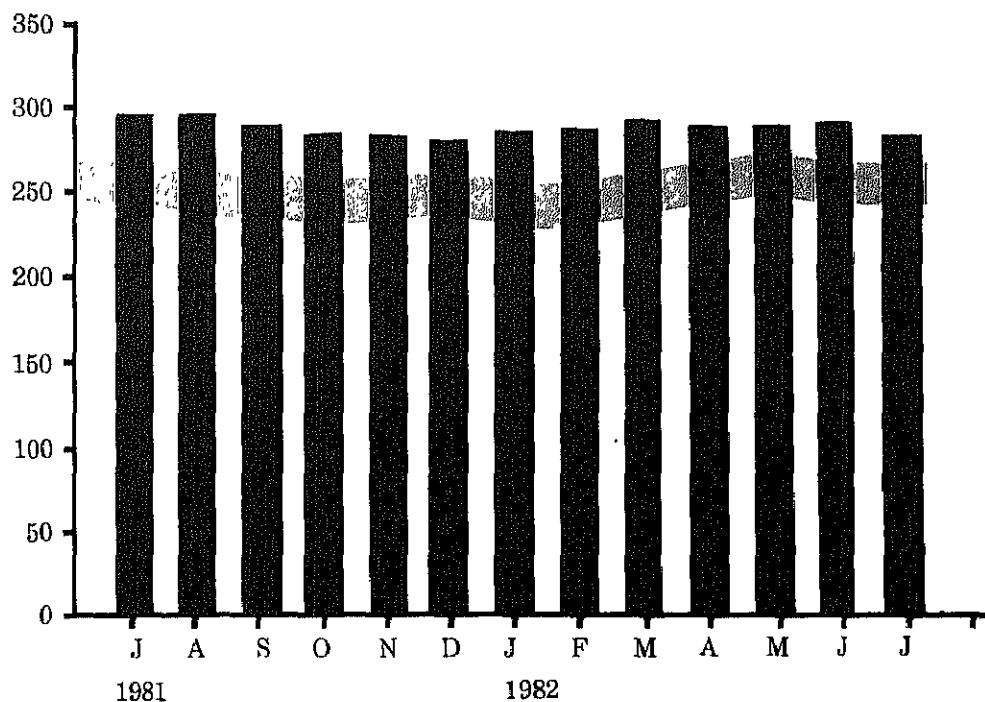
¹Average stock range based on 3 years of data. See Explanatory Note 2.5.

Source table: "Liquefied Petroleum Gases and Ethane Supply and Disposition."

Other Petroleum Products¹ Endings Stocks, Monthly (Millions of Barrels)

Legend

 Average Stock Range²



¹Includes natural gasoline and isopentane, unfinished oils, gasoline blending components, jet fuels, kerosene, lubricants, and asphalt.

²Average stock range based on 3 years of data. See Explanatory Note 2.5.

Source table: "Other Petroleum Products Supply and Disposition."

Other Petroleum Products¹ Supply and Disposition

		Supply			Disposition			Ending Stocks ²
		Total Production	Imports	Stock Withdrawal ³	Refinery Inputs	Exports	Products Supplied	
		Thousand Barrels per Day						Millions of Barrels
1973	AVERAGE	3,693	502	-9	750	166	3,270	208
1974	AVERAGE	3,558	432	-28	665	174	3,123	218
1975	AVERAGE	3,424	277	-2	537	160	3,002	219
1976	AVERAGE	3,643	206	-5	524	175	3,145	220
1977	AVERAGE	3,912	205	-27	514	165	3,410	230
1978	AVERAGE	4,046	166	14	492	167	3,568	225
1979	AVERAGE	4,153	195	-37	352	209	3,749	238
1980	January	4,157	269	135	591	186	3,785	234
	February	4,181	167	-153	380	174	3,641	239
	March	4,128	219	-370	149	200	3,627	250
	April	4,105	238	-374	86	180	3,703	261
	May	4,018	222	-301	135	227	3,577	271
	June	4,016	226	-49	250	256	3,687	272
	July	3,873	188	82	356	209	3,578	270
	August	3,753	138	212	351	221	3,532	263
	September	3,952	206	25	234	188	3,761	262
	October	3,737	220	175	351	193	3,588	267
	November	3,786	213	156	475	148	3,533	252
	December	3,792	209	151	362	194	3,596	247
	AVERAGE	3,956	210	-23	311	196	3,634	
1981	January	3,821	162	80	851	132	3,081	296
	February	3,723	182	-200	538	208	2,958	302
	March	3,722	230	-55	642	210	3,043	304
	April	3,711	230	24	733	192	3,040	303
	May	3,892	229	-58	594	238	3,231	305
	June	3,925	218	-29	656	197	3,261	306
	July	3,852	149	284	791	212	3,282	297
	August	3,876	276	-33	676	219	3,225	298
	September	3,718	285	215	883	176	3,159	291
	October	3,503	241	193	710	227	3,000	285
	November	3,579	262	33	784	154	2,935	284
	December	3,543	243	71	805	223	2,829	282
	AVERAGE	3,739	226	46	723	199	3,088	
1982	January	3,181	240	-102	602	180	2,536	284
	February	3,364	260	-116	646	138	2,724	287
	March	3,485	241	-204	734	161	2,627	294
	April	3,394	287	91	801	204	2,767	291
	May	3,296	309	198	823	210	2,769	285
	June	3,481	315	115	815	216	2,879	281
	July*	3,578	391	15	862	187	2,935	281
	AVERAGE	3,397	292	0	756	186	2,748	

¹ Includes natural gasoline and isopentane, unfractionated stream, plant condensate, other liquids; and all finished petroleum products except finished motor gasoline, distillate fuel oil, and residual fuel oil.

² Ending Stocks for 1973-1979 are totals as of December 31.

³ A negative number indicates an increase in stocks and a positive number indicates a decrease. Totals may not equal sum of components due to independent rounding.

* See Explanatory Note 5.6.

Note: Annual stock changes for 1975 and 1981 were calculated using expanded survey coverage. Geographic Coverage: The 50 United States and the District of Columbia.

Sources: See "Sources" at the end of this section.

Crude Oil and Petroleum Product Imports from OPEC Sources

	Algeria	Libya	Saudi Arabia	United Arab Emirates	Indonesia	Iran	Nigeria	Venezuela	Other OPEC ¹	Total OPEC	Total Arab OPEC ²
Thousand Barrels per Day											
1973											
AVERAGE	136	164	486	71	213	223	459	1,135	106	2,993	915
1974											
AVERAGE	190	4	461	74	300	469	713	979	88	3,280	752
1975											
AVERAGE	282	232	715	117	390	280	762	702	122	3,601	1,383
1976											
AVERAGE	432	453	1,230	254	539	298	1,025	700	134	5,066	2,424
1977											
AVERAGE	559	723	1,380	335	541	535	1,143	690	287	6,193	3,185
1978											
AVERAGE	649	654	1,144	385	573	555	919	645	226	5,751	2,963
1979											
AVERAGE	636	658	1,356	281	420	304	1,080	690	212	5,637	3,056
1980											
January	503	618	1,576	202	454	95	1,054	786	179	5,467	3,034
February	656	603	1,412	304	317	9	1,036	543	152	5,031	3,058
March	472	654	1,380	289	405	0	924	352	175	4,652	2,889
April	546	683	1,300	150	374	0	734	343	240	4,369	2,862
May	441	468	1,149	172	360	0	955	405	147	4,088	2,329
June	497	561	1,328	178	331	0	998	409	106	4,408	2,598
July	557	492	1,192	158	365	0	752	417	62	3,995	2,418
August	432	431	1,139	142	289	0	792	406	112	3,743	2,222
September	375	505	1,112	107	299	0	736	425	111	3,670	2,185
October	465	478	1,044	182	348	0	728	482	95	3,821	2,226
November	493	500	1,201	105	348	0	624	595	78	3,944	2,338
December	423	658	1,301	83	288	0	958	610	101	4,423	2,484
AVERAGE	488	554	1,261	172	348	9	857	481	130	4,300	2,551
1981											
January	341	500	1,284	93	424	0	908	549	27	4,127	2,219
February	381	488	1,122	93	406	0	866	463	92	3,891	2,064
March	352	485	1,027	47	328	0	771	360	54	3,425	1,912
April	263	485	1,034	68	307	0	812	237	39	3,245	1,867
May	393	443	933	17	297	0	664	331	124	3,203	1,796
June	356	380	865	60	367	0	528	248	118	2,922	1,703
July	333	251	1,073	80	340	0	651	466	38	3,233	1,757
August	348	274	1,082	61	377	0	321	523	84	3,070	1,765
September	336	154	1,477	96	371	0	323	359	149	3,264	2,063
October	242	147	1,342	90	427	0	412	389	172	3,220	1,820
November	210	132	1,270	112	353	0	517	535	56	3,184	1,724
December	176	122	1,045	158	400	0	684	411	132	3,129	1,502
AVERAGE	311	319	1,129	81	366	0	620	406	90	3,323	1,848
1982											
January	254	161	877	87	273	0	662	376	128	2,818	1,378
February	139	92	692	79	236	0	579	347	102	2,267	1,044
March	91	37	555	155	200	0	503	399	91	2,032	860
April	85	0	479	122	215	0	427	411	79	1,818	707
May	179	0	601	116	236	0	211	414	54	1,811	897
June	93	0	593	94	215	72	537	361	110	2,075	799
July	122	0	644	123	327	69	910	349	95	2,640	927
AVERAGE	138	41	635	111	244	20	547	380	94	2,210	945

¹ Includes Ecuador, Gabon, Iraq, Kuwait, and Qatar.

² Includes Algeria, Libya, Saudi Arabia, United Arab Emirates, Iraq, Kuwait, and Qatar.

Totals may not equal sum of components due to independent rounding.

Note: Beginning in October 1977, Strategic Petroleum Reserve Imports are included.

Geographic coverage: The 50 United States and the District of Columbia.

Sources: See "Sources" at the end of this section.

Crude Oil and Petroleum Product Imports from Non-OPEC Sources

	Bahamas	Canada	Mexico	Netherlands Antilles	Trinidad and Tobago	United Kingdom	Puerto Rico ¹	Virgin Islands ¹	Other ²	Total
Thousand Barrels per Day										
1973										
AVERAGE	174	1,325	16	585	255	15	99	329	465	3,263
1974										
AVERAGE	164	1,070	8	511	251	8	90	391	340	2,832
1975										
AVERAGE	152	846	71	332	242	14	90	406	300	2,454
1976										
AVERAGE	118	599	87	275	274	31	88	422	353	2,247
1977										
AVERAGE	171	517	179	211	289	126	105	466	550	2,614
1978										
AVERAGE	160	467	318	229	253	180	94	429	484	2,613
1979										
AVERAGE	147	538	439	231	190	202	92	431	548	2,819
1980										
January	175	570	545	289	239	296	57	467	492	3,131
February	111	540	477	205	192	105	95	536	652	2,914
March	124	460	460	184	189	232	101	449	601	2,800
April	56	459	546	231	143	182	76	425	619	2,737
May	77	419	576	176	221	124	88	303	498	2,481
June	77	409	627	197	162	148	91	314	465	2,486
July	43	378	460	242	180	115	90	378	376	2,262
August	62	319	646	255	159	196	85	264	463	2,449
September	58	458	550	213	205	218	52	343	473	2,569
October	70	475	605	230	114	134	107	372	450	2,557
November	22	470	459	264	158	157	108	391	435	2,464
December	54	502	445	212	149	199	109	423	378	2,471
AVERAGE	78	455	533	225	176	176	88	388	491	2,609
1981										
January	39	543	401	198	150	233	89	494	552	2,701
February	84	546	437	227	163	271	46	481	626	2,881
March	74	472	488	227	93	263	45	370	571	2,603
April	68	412	418	198	139	402	40	365	380	2,423
May	122	365	522	213	105	368	58	344	474	2,573
June	51	353	538	196	124	397	67	262	525	2,513
July	77	382	384	212	178	553	50	208	541	2,583
August	69	378	489	255	123	592	68	184	539	2,698
September	111	423	708	163	189	528	72	265	661	3,100
October	63	449	669	161	121	351	60	303	562	2,739
November	63	547	628	168	108	253	76	294	421	2,557
December	70	501	587	148	125	280	73	367	563	2,714
AVERAGE	74	447	522	197	133	375	62	327	534	2,672
1982										
January	28	509	426	179	106	346	62	334	425	2,415
February	50	533	489	221	120	132	38	354	487	2,424
March	43	435	503	189	118	293	62	307	479	2,429
April	67	357	467	180	166	247	36	266	682	2,468
May	76	416	767	152	95	516	47	302	603	2,974
June	32	462	797	141	129	539	58	322	673	3,153
July	30	527	783	158	111	433	38	369	674	3,122
AVERAGE	46	462	606	174	120	381	49	322	575	2,715

¹ U.S. Possessions.

Ing.
orts are included.
Jmbla.

Sources

- 1973 through 1976: Bureau of Mines, U.S. Department of the Interior, "Petroleum Statement, Annual" and PAD Districts Supply/Demand, Annual," Mineral Industry Surveys.
- 1977 through 1980: Energy Information Administration, U.S. Department of Energy, "Monthly Petroleum Statistics Report," (unleaded gasoline category).
- 1977 through 1980: Energy Information Administration, U.S. Department of Energy, "Petroleum Statement, Annual" and "PAD Districts Supply/Demand, Annual," "Energy Data Reports.
- January 1981 through December 1981: Energy Information Administration, U.S. Department of Energy, "Petroleum Supply Annual."
- January 1982 through July 1982: Detailed statistics in this issue. (See Explanatory Notes 5.1 through 5.6).
- August 1982: Estimates based on EIA weekly data (except domestic crude oil production). See Explanatory Note 2.2).
- January 1982 through August 1982: Domestic crude oil production estimate based on historical statistics from State Conservation Agencies and the U.S. Geological Survey. (See Explanatory Note 2.7).

Detailed Statistics

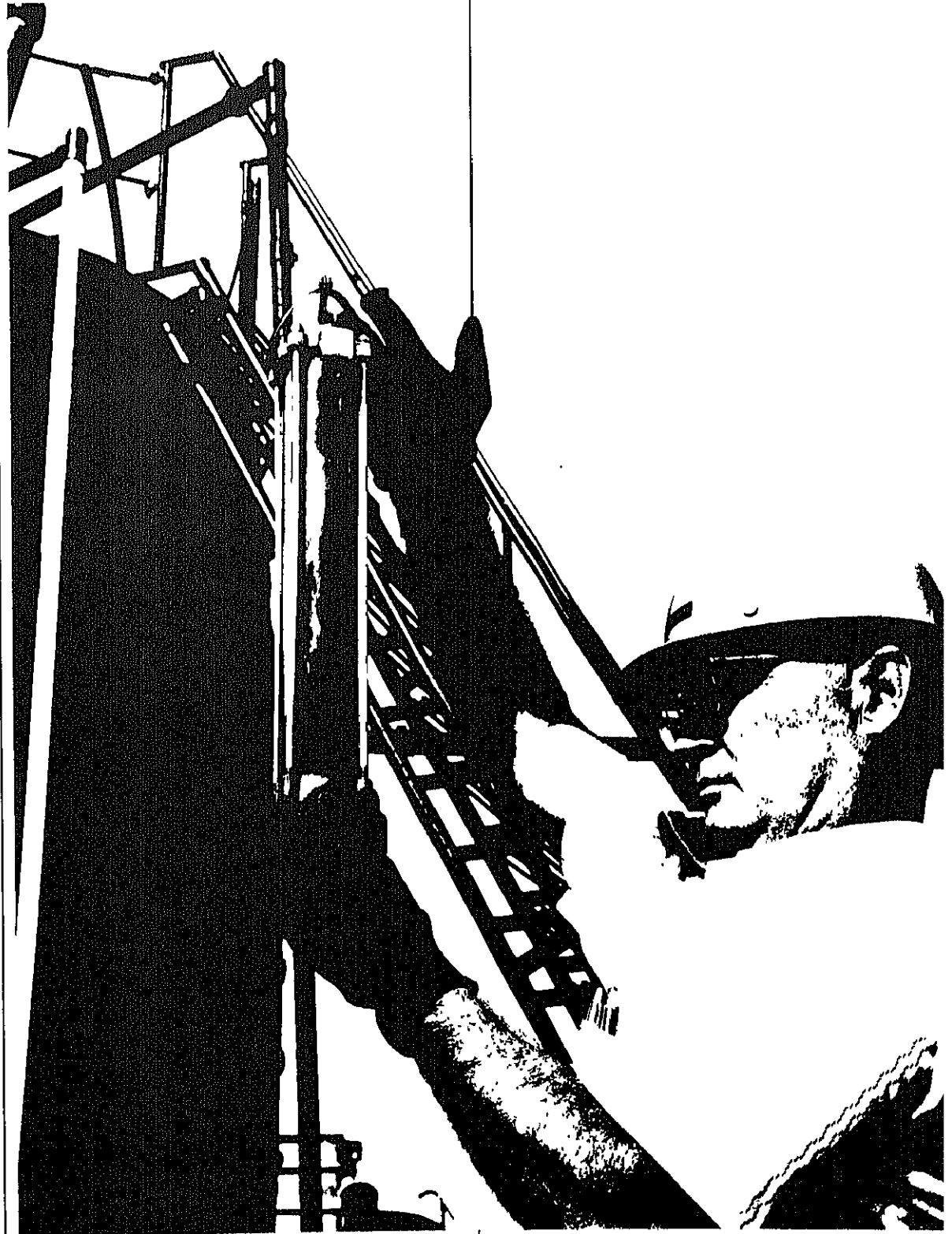


Table 1. U.S. Petroleum Balance, July 1982

	Current Month		Year-to-Date	
	Thousand Barrels	Thousand Barrels per Day	Thousand Barrels	Thousand Barrels per Day
Crude Oil (Including Lease Condensate)				
Field Production				
(1) Alaska	E 53,165	1,715	E 381,347	1,704
(2) Lower 48 States	E 214,952	6,934	E 1,473,783	6,952
(3) Total U.S.	E 268,117	8,649	E 1,855,130	8,656
Net Imports				
(4) Imports (Gross Excluding SPR)	128,572	4,147	882,715	3,220
(5) SPR Imports	3,014	97	33,637	159
(6) Exports	7,105	229	49,123	232
(7) Imports (Net Including SPR)	124,481	4,016	867,229	3,147
Other Sources				
(8) SPR Withdrawal (+) or Addition (-)	-3,013	-97	-36,813	-174
(9) Other Stock Withdrawal (+) or Addition (-)	-1,803	-58	18,898	89
(10) Used Directly and Losses	-1,964	-63	-14,005	-66
(11) Unaccounted for ¹	33	1	23,183	109
(12) Total Other Sources	-6,747	-218	-8,737	-41
(13) Crude Input to Refineries	385,853	12,447	2,493,623	11,762
(13) = (3) + (7) + (12)				
Natural Gas Plant Liquids (NGPL)				
(14) Field Production	47,156	1,521	326,398	1,540
(15) Imports ²	1,542	50	3,701	17
(16) Stock Withdrawal (+) or Addition (-) ²	-829	-27	676	3
(17) Total NGPL Supply	47,869	1,544	330,775	1,560
Other Liquids				
Unfinished Oils and Gasoline Blending Components, Total				
(18) Stock Withdrawal (+) or Addition (-)	-1,399	-45	245	1
(19) Imports	5,310	171	31,687	149
(20) Other Hydrocarbons and Alcohol New Supply (Field Production)	1,799	58	10,432	49
(21) Refinery Processing Gain ¹	16,860	544	108,651	513
(22) Crude Used Directly	1,863	60	13,247	62
(23) Total Other Liquids	24,433	768	164,262	775
(23) = (18) through (22)				
(24) Total Production of Products ³	458,155	14,779	2,988,660	14,097
(24) = (13) + (17) + (23)				
Net Imports of Refined Products ³				
(25) Imports (Gross)	40,209	1,297	292,482	1,380
(26) Exports	15,867	512	118,958	561
(27) Imports (Net)	24,343	785	173,524	819
(28) Total New Supply of Products	482,498	15,564	3,162,184	14,916
(28) = (24) + (27)				
(29) Refined Products Stock Withdrawal (+) or Addition (-) ³	-24,597	-793	106,735	503
(30) Total Petroleum Products Supplied for Domestic Use	457,901	14,771	3,268,919	15,419
(30) = (28) + (29)				
(31) Finished Motor Gasoline	210,759	6,799	1,386,840	6,542
(32) Naphtha-Type Jet Fuel	6,850	221	44,206	209
(33) Kerosene-Type Jet Fuel	23,721	765	168,979	787
(34) Kerosene	2,953	95	26,998	127
(35) Distillate Fuel Oil	64,610	2,084	589,409	2,780
(36) Residual Fuel Oil	45,437	1,466	383,507	1,809
(37) Liquefied Petroleum Gases and Ethane	46,111	1,487	325,464	1,535
(38) Other	70,915	2,288	415,703	1,961
(39) Total Reclassified ¹	-13,456	-434	-72,185	-340
(40) Total Product Supplied	457,901	14,771	3,268,920	15,419
(40) = (31) through (39)				
Ending Stocks, All Oils				
(41) Crude Oil and Lease Condensate (Excluding SPR)	344,566	—	344,566	—
(42) Strategic Petroleum Reserve (SPR)	267,154	—	267,154	—
(43) Unfinished Oils	117,790	—	117,790	—
(44) Gasoline Blending Components	43,744	—	43,744	—
(45) Natural Gasoline and Unfractionated Stream	14,843	—	14,843	—
(46) Finished Refined Products ³	605,810	—	605,810	—
(47) Total Stocks	1,393,907	—	1,393,907	—

¹ A balancing item.² Includes Isopentane, natural gasoline, unfractionated stream, and plant condensate only.³ For products included see Explanatory Note 5.7.

E = Estimated.

— Not Applicable.

Note: Total may not equal sum of components due to independent rounding.

Sources and estimation procedures: See Explanatory Notes 1, 2, and 5.7.

Table 2. Supply and Disposition of Crude Oil and Petroleum Products, July 1982
(Thousands of Barrels)

Commodity	Supply					Disposition				
	Field Production	Refinery Production	Imports	Stock Withdrawal (+) or Addition (-)	Unaccounted For Crude Oil ¹	Crude Used Directly and Losses ²	Refinery Inputs	Exports	Products Supplied	Ending Stocks
Crude Oil (including lease condensate)	E 268,117	0	131,586	-4,816	35	-1,964	385,853	7,105	0	611,720
Natural Gas Plant Liquids and LRGs	46,749	9,296	8,584	-988	0	0	15,391	1,154	47,097	125,942
Natural Gasoline and Isopentane	5,616	0	1,316	274	0	0	6,242	0	964	7,711
Unfractionated Stream	1,293	0	0	-1,213	0	0	0	0	20	5,576
Plant Condensate	974	0	227	110	0	0	1,308	0	2	1,556
Liquefied Petroleum Gases and Ethane	38,926	9,296	7,042	-159	0	0	7,841	1,154	46,111	111,099
Ethane	7,951	121	1,721	455	0	0	108	(9)	10,140	5,297
Propane	13,724	8,364	1,324	-335	0	0	183	641	22,253	63,527
Butane	6,839	773	1,401	-566	0	0	4,458	512	3,477	22,272
Butane-Propane Mixtures	134	57	708	12	0	0	101	0	810	1,052
Ethane-Propane Mixtures	6,950	0	1,888	611	0	0	0	0	9,449	11,184
Isobutane	3,328	-19	0	-336	0	0	2,991	0	-18	7,767
Other Liquids	1,799	0	5,310	-1,399	0	0	19,166	0	-13,456	161,534
Other Hydrocarbons and Alcohol	1,799	0	0	-3	0	0	1,796	0	0	231
Unfinished Oils	0	0	4,155	-277	0	0	14,112	0	-10,234	117,790
Motor Gasoline Blending Components	0	0	1,156	-1,160	0	0	3,357	0	-3,361	43,083
Aviation Gasoline Blending Components	0	0	0	41	0	0	-99	0	140	430
Finished Petroleum Products	407	427,974	33,167	-24,438	0	1,863	0	14,713	424,260	494,711
Finished Motor Gasoline	34	210,385	6,205	-5,107	0	0	0	758	210,759	182,945
Finished Leaded Motor Gasoline	34	99,548	3,905	-2,768	0	0	0	758	99,960	93,145
Finished Unleaded Motor Gasoline	0	110,736	2,300	-2,337	0	0	0	0	110,699	89,761
Gasohol	0	101	0	-2	0	0	0	0	99	39
Finished Aviation Gasoline	80	836	(9)	-6	0	0	0	0	911	2,381
Naphtha-Type Jet Fuel	0	6,928	250	-328	0	0	0	0	6,850	6,416
Kerosene-Type Jet Fuel	0	22,949	225	579	0	0	0	32	23,721	33,415
Kerosene	4	2,653	148	149	0	0	0	1	2,953	9,087
Distillate Fuel Oil	2	84,754	3,837	-23,600	0	355	0	738	84,610	148,150
Residual Fuel Oil	0	31,907	17,843	1,586	0	1,508	0	7,406	45,438	58,963
Naphtha < 400 Deg. for Petro. Feed. Use	0	4,379	3,753	204	0	0	0	105	8,231	2,008
Other Oils > 400 Deg. for Petro. Feed. Use	0	8,311	0	-283	0	0	0	469	7,559	2,076
Special Naphthas	51	2,023	330	-145	0	0	0	56	2,203	3,606
Lubricants	0	4,556	330	-102	0	0	0	528	4,256	13,518
Waxes	0	391	29	54	0	0	0	37	437	758
Petroleum Coke	0	13,361	0	-398	0	0	0	4,477	8,486	5,854
Asphalt	0	13,069	214	3,516	0	0	0	51	16,748	22,068
Road Oil	0	51	0	-21	0	0	0	0	30	84
Still Gas	0	18,959	0	0	0	0	0	0	18,959	0
Miscellaneous Products	235	2,462	3	-537	0	0	0	53	2,111	3,382
Total	317,072	437,270	178,648	-31,641	35	-101	420,410	22,972	457,901	1,393,907

¹ Unaccounted for crude oil is a balancing item.

² Total equals refinery fuel use and loss.

(9) Less than 500 barrels.

E = Estimated

Note: Total may not equal sum of components due to independent rounding.

Sources and estimation procedures: See Explanatory Notes on Data Collection and Estimation.

Table 3. Year-to-Date Supply and Disposition Statistics of Crude Oil and Petroleum Products, January - July 1982
(Thousands of Barrels)

Commodity	Supply					Disposition				Ending Stocks
	Field Production	Refinery Production	Imports	Stock Withdrawal (+) or Addition (-)	Unaccounted For Crude Oil ¹	Crude Used Directly and Losses ²	Refinery Inputs	Exports	Products Supplied	
Crude Oil (including lease condensate)	E 1,835,130	0	716,352	-17,915	23,184	-14,005	2,493,623	49,123	0	611,720
Natural Gas Plant Liquids and LRGs	322,970	56,763	52,688	24,228	0	0	106,786	13,801	336,062	125,942
Natural Gasoline and Isopentane	43,440	0	2,515	1,682	0	0	37,304	0	10,332	7,711
Unfractionated Stream	1,248	0	0	-1,024	0	0	8	0	216	5,576
Plant Condensate	7,181	0	1,186	18	0	0	8,337	0	49	1,556
Liquefied Petroleum Gases and Ethane	271,101	56,763	48,986	23,552	0	0	61,137	13,801	325,464	111,099
Ethane	58,230	1,035	11,652	-382	0	0	1,230	1	69,304	5,297
Propane	98,579	52,759	12,339	12,030	0	0	842	6,740	168,125	63,527
Butane	46,482	2,391	11,521	4,982	0	0	34,163	7,060	24,152	22,272
Butane-Propane Mixtures	807	602	5,086	701	0	0	1,034	0	6,161	1,052
Ethane-Propane Mixtures	43,982	0	8,389	5,250	0	0	1	0	57,620	11,184
Isobutane	23,021	-24	0	971	0	0	23,867	0	101	7,767
Other Liquids	10,432	0	31,687	245	0	0	114,549	0	-72,185	161,534
Other Hydrocarbons and Alcohol	10,432	0	0	-23	0	0	10,409	0	0	231
Unfinished Oils	0	0	25,000	-6,442	0	0	63,732	0	-45,174	117,790
Motor Gasoline Blending Components	0	0	6,686	6,449	0	0	40,722	0	-27,587	43,083
Aviation Gasoline Blending Components	0	0	0	261	0	0	-314	0	575	430
Finished Petroleum Products	3,430	2,766,846	243,495	83,183	0	13,247	0	105,157	3,005,044	494,711
Finished Motor Gasoline	385	1,335,584	35,393	20,524	0	0	0	5,046	1,386,840	182,945
Finished Leaded Motor Gasoline	366	638,692	21,626	14,940	0	0	0	5,046	670,577	93,145
Finished Unleaded Motor Gasoline	20	696,183	13,767	5,564	0	0	0	0	715,533	89,761
Gasohol	0	709	0	20	0	0	0	0	729	39
Finished Aviation Gasoline	396	4,751	1	352	0	0	0	0	5,500	2,381
Naphtha-Type Jet Fuel	0	42,728	903	638	0	0	0	63	44,206	6,416
Kerosene-Type Jet Fuel	2	163,806	5,296	596	0	0	0	721	168,979	33,415
Kerosene	27	23,259	2,037	1,956	0	0	0	280	26,998	9,087
Distillate Fuel Oil	17	539,235	19,013	43,391	0	2,287	0	14,534	589,409	148,150
Residual Fuel Oil	0	237,240	162,498	19,029	0	10,960	0	46,220	383,507	58,963
Naphtha < 400 Deg for Petro. Feed	0	33,477	11,566	461	0	0	0	874	44,631	2,008
Other Oils > 400 Deg. for Petrochem Feedstock	0	58,455	0	-326	0	0	0	4,180	53,949	2,076
Special Naphthas	569	10,948	3,929	359	0	0	0	1,276	14,529	3,606
Lubricants	0	30,863	1,700	786	0	0	0	3,533	29,816	13,518
Waxes	0	3,015	168	-88	0	0	0	164	2,931	758
Petroleum Coke	0	86,046	0	-1,352	0	0	0	27,819	56,875	5,854
Asphalt	0	62,947	890	-2,481	0	0	0	156	61,200	22,068
Road Oil	0	460	2	-58	0	0	0	0	84	0
Still Gas	0	117,353	0	0	0	0	0	0	404	0
Miscellaneous Products	2,033	16,679	99	-603	0	0	0	291	17,917	3,382
Total	2,171,961	2,823,609	1,044,222	89,741	23,184	-758	2,714,958	168,081	3,268,920	1,393,907

¹ Unaccounted for crude oil is a balancing item.

² Total equals refinery fuel use and loss.

E Estimated.

Note: Total may not equal sum of components due to independent rounding.

Sources and estimation procedures: See Explanatory Notes on Data Collection and Estimation.

Table 4. Daily Average Supply and Disposition of Crude Oil and Petroleum Products, July 1982
(Thousand Barrels per Day)

Commodity	Supply					Disposition			
	Field Production	Refinery Production	Imports	Stock Withdrawal(+) Addition(-)	Unaccounted For Crude Oil ¹	Crude Used Directly and Losses ²	Refinery Inputs	Exports	Products Supplied
Crude Oil (including lease condensate)	E 8,649	0	4,245	-155	1	-63	12,447	229	0
Natural Gas Plant Liquids and LRGs	1,508	300	277	-32	0	0	496	37	1,519
Natural Gasoline and Isopentane	181	0	42	9	0	0	201	0	31
Unfractionated Stream	40	0	0	-39	0	0	0	0	1
Plant Condensate	31	0	7	4	0	0	42	0	(s)
Liquefied Petroleum Gases and Ethane	1,256	300	227	-5	0	0	253	37	1,487
Ethane	256	4	56	15	0	0	3	(s)	327
Propane	443	270	43	-11	0	0	6	21	718
Butane	221	25	45	-18	0	0	144	17	112
Butane-Propane Mixtures	4	2	23	(s)	0	0	3	0	26
Ethane-Propane Mixtures	224	0	61	20	0	0	0	0	305
Isobutane	107	-1	0	-11	0	0	96	0	-1
Other Liquids	58	0	171	-45	0	0	618	0	-434
Other Hydrocarbons and Alcohol	58	0	0	(s)	0	0	58	0	0
Unfinished Oils	0	0	134	-9	0	0	455	0	-330
Motor Gasoline Blending Components	0	0	37	-37	0	0	108	0	-108
Aviation Gasoline Blending Components	0	0	0	1	0	0	-3	0	5
Finished Petroleum Products	13	13,806	1,070	-788	0	60	0	475	13,686
Finished Motor Gasoline	1	6,787	200	-165	0	0	0	24	6,799
Finished Leaded Motor Gasoline	1	3,211	126	-89	0	0	0	24	3,225
Finished Unleaded Motor Gasoline	0	3,572	74	-75	0	0	0	0	3,571
Gasohol	0	3	0	(s)	0	0	0	0	3
Finished Aviation Gasoline	3	27	(s)	(s)	0	0	0	0	29
Naphtha-Type Jet Fuel	0	223	8	-11	0	0	0	0	221
Kerosene-Type Jet Fuel	0	740	7	19	0	0	0	1	765
Kerosene	(s)	86	5	5	0	0	0	(s)	95
Distillate Fuel Oil	(s)	2,734	124	-761	0	11	0	24	2,084
Residual Fuel Oil	0	1,029	576	51	0	49	0	239	1,466
Naphtha < 400 Deg. for Petro. Feed. Use	0	141	121	7	0	0	0	3	266
Other Oils > 400 Deg. for Petro. Feed. Use	0	268	0	-9	0	0	0	15	244
Special Naphthas	2	65	11	-5	0	0	0	2	71
Lubricants	0	147	11	-3	0	0	0	17	137
Waxes	0	13	1	2	0	0	0	1	14
Petroleum Coke	0	431	0	-13	0	0	0	144	274
Asphalt	0	422	7	113	0	0	0	2	540
Road Oil	0	2	0	-1	0	0	0	0	1
Still Gas	0	612	0	0	0	0	0	0	612
Miscellaneous Products	8	79	(s)	-17	0	0	0	2	68
Total	10,228	14,105	5,763	-1,021	1	-3	13,562	741	14,771

¹ Unaccounted for crude oil is a balancing item.

² Total equals refinery fuel use and loss.

(s) Less than 500 barrels per day.

E = Estimated.

Note: Total may not equal sum of components due to independent rounding.

Sources and estimation procedures: See Explanatory Notes on Data Collection and Estimation.

Table 5. Year-to-Date Daily Average Supply and Disposition of Crude Oil and Petroleum Products, January - July 1982
(Thousand Barrels per Day)

Commodity	Supply					Disposition			
	Field Production	Refinery Production	Imports	Stock Withdrawal(+) Addition(-)	Unaccounted For Crude Oil ¹	Crude Used Directly and Losses ²	Refinery Inputs	Exports	Products Supplied
Crude Oil (including lease condensate)	E 8,656	0	3,379	-85	109	-66	11,762	232	0
Natural Gas Plant Liquids and LRGs	1,523	268	249	114	0	0	504	65	1,585
Natural Gasoline and Isopentane	205	0	12	8	0	0	176	0	49
Unfractionated Stream	6	0	0	-5	0	0	(s)	0	1
Plant Condensate	34	0	6	(s)	0	0	39	0	(s)
Liquefied Petroleum Gases and Ethane	1,279	268	231	111	0	0	288	65	1,535
Ethane	275	5	55	-2	0	0	6	(s)	327
Propane	465	249	58	57	0	0	4	32	793
Butane	219	11	54	23	0	0	161	33	114
Butane-Propane Mixtures	4	3	24	3	0	0	5	0	29
Ethane-Propane Mixtures	207	0	40	25	0	0	(s)	0	272
Isobutane	109	(s)	0	5	0	0	113	0	(s)
Other Liquids	49	0	149	1	0	0	540	0	-340
Other Hydrocarbons and Alcohol	49	0	0	(s)	0	0	49	0	0
Unfinished Oils	0	0	118	-30	0	0	301	0	-213
Motor Gasoline Blending Components	0	0	32	30	0	0	192	0	-130
Aviation Gasoline Blending Components	0	0	0	1	0	0	-1	0	3
Finished Petroleum Products	16	13,051	1,149	392	0	62	0	496	14,175
Finished Motor Gasoline	2	6,300	167	97	0	0	0	24	6,542
Finished Leaded Motor Gasoline	2	3,013	102	70	0	0	0	24	3,163
Finished Unleaded Motor Gasoline	(s)	3,284	65	26	0	0	0	0	3,375
Gasohol	0	3	0	(s)	0	0	0	0	3
Finished Aviation Gasoline	2	22	(s)	2	0	0	0	0	26
Naphtha-Type Jet Fuel	0	202	4	3	0	0	0	3	209
Kerosene-Type Jet Fuel	(s)	773	25	3	0	0	0	0	797
Kerosene	(s)	110	10	9	0	0	0	1	127
Distillate Fuel Oil	(s)	2,544	90	205	0	11	0	69	2,780
Residual Fuel Oil	0	1,119	767	90	0	52	0	218	1,809
Naphtha < 400 Deg. for Petro. Feed. Use	0	158	55	2	0	0	0	4	211
Other Oils > 400 Deg. for Petro. Feed. Use	0	276	0	-2	0	0	0	20	254
Special Naphthas	3	52	19	2	0	0	0	6	69
Lubricants	0	146	8	4	0	0	0	17	141
Waxes	0	14	1	(s)	0	0	0	1	14
Petroleum Coke	0	406	0	-6	0	0	0	131	268
Asphalt	0	297	4	-12	0	0	0	1	289
Road Oil	0	2	(s)	(s)	0	0	0	0	2
Still Gas	0	554	0	0	0	0	0	0	554
Miscellaneous Products	10	79	(s)	-3	0	0	0	1	85
Total	10,245	13,319	4,926	423	109	-4	12,806	793	15,419

¹ Unaccounted for crude oil is a balancing item.

² Total equals refinery fuel use and loss.

(s) Less than 500 barrels per day.

E Estimated.

Note: Total may not equal sum of components due to independent rounding.

Sources and estimation procedures: See Explanatory Notes on Data Collection and Estimation.

Table 6. PAD District 1, Supply and Disposition of Crude Oil and Petroleum Products, July 1982
(Thousands of Barrels)

Commodity	Field Production	Refinery Production	Imports	Supply Stock Withdrawal (+) or Addition (-)	Unaccounted For Crude Oil ¹	Crude Used Directly and Losses ²	Net Receipts	Disposition			Ending Stocks
								Refinery Inputs	Exports	Products Supplied	
Crude Oil (including lease condensate)	E 2,581	0	32,234	1,507	1,103	0	2,585	40,010	(9)	0	17,625
Natural Gas Plant Liquids and LRGs	1,008	1,343	405	-652	0	0	2,588	192	35	4,484	4,411
Liquefied Petroleum Gases	480	1,343	312	-671	0	0	2,588	173	35	3,844	4,389
Other Products ³	399	0	0	0	0	0	0	0	(9)	399	0
Other Products ³	129	0	92	19	0	0	0	19	0	221	22
Other Liquids											
Other Hydrocarbons and Alcohol	206	0	2,534	-1,191	0	0	279	2,865	0	-1,037	22,822
Unfinished Oils	206	0	0	-4	0	0	0	202	0	0	23
Motor Gasoline Blending Components	0	0	1,833	-1,980	0	0	279	2,002	0	-1,870	17,851
Aviation Gasoline Blending Components	0	0	701	793	0	0	0	661	0	833	4,948
Aviation Gasoline Blending Components	0	0	0	0	0	0	0	0	0	0	0
Finished Petroleum Products											
Finished Motor Gasoline	34	43,715	23,061	-9,885	0	0	75,215	0	732	132,408	166,962
Finished Lead Motor Gasoline	34	20,308	4,068	2,039	0	0	45,277	0	164	71,562	58,215
Finished Unleaded Motor Gasoline	34	8,536	2,415	659	0	0	19,855	0	164	31,335	28,867
Gasohol	0	11,772	1,653	1,381	0	0	25,422	0	0	40,228	29,341
Finished Aviation Gasoline	0	0	0	-1	0	0	0	0	0	-1	7
Naphtha-Type Jet Fuel	0	11	(9)	1	0	0	185	0	0	197	426
Kerosene-Type Jet Fuel	0	594	250	192	0	0	542	0	0	1,578	530
Kerosene	0	1,412	0	930	0	0	6,457	0	0	8,799	7,962
Distillate Fuel Oil	0	22	148	-120	0	0	257	0	1	306	3,845
Residual Fuel Oil	0	9,010	3,417	-13,170	0	0	17,657	0	105	16,810	57,395
Naphtha and Other Oils for Petrochem.	0	3,939	13,734	1,079	0	0	3,328	0	1	22,080	27,078
Feedstock	0	656	991	17	0	0	-110	0	39	1,514	248
Special Naphthas	0	24	19	163	0	0	318	0	4	520	911
Lubricants	0	550	233	-25	0	0	413	0	125	1,047	3,542
Waxes	0	95	3	8	0	0	0	0	4	102	156
Petroleum Coke	0	1,385	0	-142	0	0	0	0	270	923	930
Asphalt	0	3,157	195	259	0	0	644	0	3	4,252	5,082
Road Oil	0	0	0	0	0	0	0	0	0	0	0
Still Gas	0	1,941	0	0	0	0	0	0	0	1,941	0
Miscellaneous Products	0	661	1	-116	0	0	247	0	16	778	622
Total	3,829	45,058	58,233	-9,221	1,103	0	80,667	43,067	767	135,836	211,821

¹ Unaccounted for crude oil is a balancing item.

² Total equals refinery fuel use and loss.

³ Includes natural gasoline, isopentane, unrefined stream, and plant condensate.

(9) Less than 500 barrels.

E Estimated.

Note: Total may not equal sum of components due to independent rounding.

Sources and estimation procedures: See Explanatory Notes on Data Collection and Estimation.

Table 7. PAD District II Supply and Disposition of Crude Oil and Petroleum Products, July 1982
(Thousands of Barrels)

Commodity	Supply				Disposition				Ending Stocks		
	Field Production	Refinery Production	Imports	Stock Withdrawal (+) or Addition (-)	Unaccounted For Crude Oil ¹	Crude Used Directly and Losses ²	Net Receipts	Refinery Inputs		Exports	Products Supplied
Crude Oil (including lease condensate)	E 29,262	0	22,867	911	39,990	-23	1,840	93,898	949	0	74,128
Natural Gas Plant Liquids and LRGs	8,379	2,410	5,310	1,738	0	0	2,939	4,955	7	15,814	34,700
Liquefied Petroleum Gases	6,441	2,391	3,589	691	0	0	1,756	2,799	7	12,062	29,758
Ethane	1,601	19	1,721	362	0	0	0	0	0	3,703	1,687
Other Products ³	337	0	0	685	0	0	1,183	2,156	0	49	3,255
Other Liquids	409	0	530	-545	0	0	927	2,235	0	-914	31,644
Other Hydrocarbons and Alcohol	409	0	0	7	0	0	0	416	0	0	105
Unfinished Oils	0	0	121	385	0	0	269	1,788	0	-1,013	22,178
Motor Gasoline Blending Components	0	0	408	-943	0	0	658	25	0	98	9,261
Aviation Gasoline Blending Components	0	0	0	6	0	0	0	6	0	0	100
Finished Petroleum Products	14	102,442	664	-11,339	0	0	21,561	0	554	112,789	126,673
Finished Motor Gasoline	0	56,941	62	-5,071	0	0	14,248	0	(S)	66,179	53,343
Finished Leaded Motor Gasoline	0	28,771	59	-3,142	0	0	7,356	0	(S)	33,044	28,901
Finished Unleaded Motor Gasoline	0	28,143	2	-1,925	0	0	6,892	0	0	33,112	24,417
Gasohol	0	27	0	-4	0	0	0	0	0	23	25
Finished Aviation Gasoline	0	181	0	-25	0	0	174	0	0	330	591
Naphtha-Type Jet Fuel	0	980	0	31	0	0	72	0	0	1,083	1,185
Kerosene-Type Jet Fuel	0	3,591	0	407	0	0	758	0	0	4,756	7,740
Kerosene	0	386	0	-11	0	0	216	0	0	591	2,502
Distillate Fuel Oil	1	22,072	100	-8,489	0	0	6,012	0	0	19,695	42,575
Residual Fuel Oil	0	3,399	303	-58	0	0	-710	0	0	2,934	5,712
Naphtha and Other Oils for Petro. Feed	0	1,867	0	0	0	0	9	0	62	1,834	328
Special Naphthas	0	473	127	-11	0	0	149	0	1	737	603
Lubricants	0	824	49	48	0	0	291	0	13	1,199	2,118
Waxes	0	10	3	27	0	0	0	0	(S)	39	88
Petroleum Coke	0	3,355	0	-178	0	0	0	0	431	2,746	1,100
Asphalt	0	3,950	19	2,036	0	0	277	0	45	6,237	8,547
Road Oil	0	26	0	11	0	0	0	0	0	37	46
Still Gas	0	4,162	0	0	0	0	0	0	0	4,162	0
Miscellaneous Products	14	205	2	-56	0	0	65	0	1	228	195
Total	38,065	104,852	29,370	-9,235	39,990	-23	27,267	101,088	1,509	127,686	267,145

1 Unaccounted for crude oil is a balancing item

2 Total equals refinery fuel use and loss.

3 Includes natural gasoline, isopentane, unfractionated stream, and plant condensate.

(S) Less than 500 barrels.

E Estimated.

Note: Total may not equal sum of components due to independent rounding.

Sources and estimation procedures: See Explanatory Notes on Data Collection and Estimation.

Table 8. PAD District III Supply and Disposition of Crude Oil and Petroleum Products, July 1982
(Thousands of Barrels)

Commodity	Supply				Disposition				Ending Stocks		
	Field Production	Refinery Production	Imports	Stock Withdrawal (+) or Addition (-)	Unaccounted For Crude Oil	Crude Used Directly and Losses ²	Net Receipts	Refinery Inputs		Exports	Products Supplied
Crude Oil (including lease condensate) E 130,516											
Natural Gas Plant Liquids and LRGs											
Liquefied Petroleum Gases	34,238	4,069	2,117	-1,989	0	0	-5,263	8,746	945	23,481	84,043
Ethane	22,722	3,983	802	-559	0	0	-4,404	3,741	945	17,858	69,223
Other Products ³	5,946	86	0	90	0	0	0	108	(³)	6,014	3,609
	5,570	0	1,315	-1,519	0	0	0	4,897	0	-390	11,211
Other Liquids											
Other Hydrocarbons and Alcohol	591	0	2,025	-701	0	0	-1,396	11,471	0	-10,952	69,008
Unfinished Oils	591	0	0	-7	0	0	0	584	0	0	93
Motor Gasoline Blending Components	0	0	2,025	-205	0	0	-738	8,488	0	-7,406	49,980
Aviation Gasoline Blending Components	0	0	0	-469	0	0	-658	2,559	0	-3,686	18,693
	0	0	0	-20	0	0	0	-160	0	140	242
Finished Petroleum Products											
Finished Motor Gasoline	346	198,263	6,248	-2,402	0	1	-101,377	0	9,193	91,885	133,077
Finished Lead Motor Gasoline	0	94,340	(⁵)	-600	0	0	-61,847	0	553	31,340	47,350
Finished Unleaded Motor Gasoline	0	42,316	(⁵)	1,085	0	0	-28,247	0	553	14,601	22,658
Gasohol	0	52,023	0	-1,685	0	0	-33,600	0	0	16,738	24,692
Finished Aviation Gasoline	0	1	0	0	0	0	0	0	0	1	0
Naphtha-Type Jet Fuel	80	322	0	-35	0	0	-384	0	0	-17	774
Kerosene-Type Jet Fuel	0	3,055	0	-440	0	0	-776	0	0	1,899	2,945
Kerosene	0	10,755	0	-444	0	0	-8,136	0	0	2,175	10,864
Distillate Fuel Oil	4	2,079	0	259	0	0	-473	0	0	1,863	2,510
Residual Fuel Oil	1	39,837	10	-1,677	0	1	-23,932	0	254	13,987	34,165
Naphtha and Other Oils for Petro. Feed	0	15,445	3,463	705	0	0	-3,482	0	5,844	10,287	16,399
Special Naphthas	0	9,719	2,699	-82	0	0	101	0	349	12,088	3,126
Lubricants	51	1,380	9	-303	0	0	-467	0	48	622	1,746
Waxes	0	2,694	46	-87	0	0	-748	0	339	1,566	6,312
Petroleum Coke	0	228	20	10	0	0	0	0	30	228	462
Asphalt	0	4,927	0	138	0	0	0	0	1,743	3,322	748
Road Oil	0	3,478	0	375	0	0	-921	0	1	2,931	3,473
Still Gas	0	0	0	0	0	0	0	0	0	0	2
Miscellaneous Products	0	8,725	0	0	0	0	0	0	0	8,725	0
	209	1,279	1	-222	0	0	-312	0	33	922	2,202
Total	165,690	202,332	78,593	-11,641	-29,378	-40	-85,700	195,303	10,139	104,415	709,981

1 Unaccounted for crude oil is a balancing item.
2 Total equals refinery fuel use and loss.
3 Total equals refinery fuel use and loss.

1 Unaccounted for crude oil is a balancing item.

2 Total equals refinery fuel use and loss.

3 Includes natural gasoline
s) Less than 500 barrels

Estimated.

Note: Total may not equal sum of components due to independent rounding.
Sources and estimation procedures: See text.

Sources and estimation procedures: See Explanatory Notes on Data Collection and Estimation.

Table 9. PAD District IV Supply and Disposition of Crude Oil and Petroleum Products, July 1982
(Thousands of Barrels)

Commodity	Supply					Disposition			Ending Stocks		
	Field Production	Refinery Production	Imports	Stock Withdrawal (+) or Addition (-)	Unaccounted For Crude Oil ¹	Crude Used Directly and Losses ²	Net Receipts	Refinery Inputs		Exports	Products Supplied
Crude Oil (including lease condensate)	E 18,465	0	1,415	1,257	-7,287	-6	0	13,844	0	0	13,718
Natural Gas Plant Liquids and LRGs	2,078	74	401	49	0	0	-264	493	0	1,845	1,155
Liquefied Petroleum Gases	702	70	267	47	0	0	60	309	0	836	902
Ethane	5	4	0	(s)	0	0	0	0	0	9	(s)
Other Products ³	1,371	0	135	2	0	0	-324	184	0	1,000	253
Other Liquids	71	0	0	544	0	0	0	139	0	476	4,479
Other Hydrocarbons and Alcohol	71	0	0	0	0	0	0	71	0	0	0
Unfinished Oils	0	0	0	237	0	0	0	-203	0	440	2,919
Motor Gasoline Blending Components	0	0	0	307	0	0	0	271	0	36	1,560
Aviation Gasoline Blending Components	0	0	0	0	0	0	0	0	0	0	0
Finished Petroleum Products	12	14,538	1	450	0	6	248	0	2	15,253	12,337
Finished Motor Gasoline	0	7,742	0	391	0	0	178	0	0	8,311	4,282
Finished Leaded Motor Gasoline	0	4,934	0	328	0	0	166	0	0	5,428	2,727
Finished Unleaded Motor Gasoline	0	2,808	0	63	0	0	12	0	0	2,883	1,553
Gasohol	0	0	0	0	0	0	0	0	0	0	2
Finished Aviation Gasoline	0	40	0	-7	0	0	25	0	0	58	32
Naphtha-Type Jet Fuel	0	387	0	-1	0	0	-102	0	0	284	338
Kerosene-Type Jet Fuel	0	557	0	-116	0	0	585	0	0	1,026	739
Kerosene	0	5	0	5	0	0	0	0	0	10	41
Distillate Fuel Oil	0	3,898	(s)	-377	0	0	-438	0	0	3,083	3,389
Residual Fuel Oil	0	312	0	-2	0	6	0	0	0	316	485
Naphtha and Other Oils for Petro. Feed	0	2	0	0	0	0	0	0	1	1	0
Special Naphthas	0	7	(s)	-3	0	0	0	0	0	4	7
Lubricants	0	29	1	-6	0	0	0	0	1	23	64
Waxes	0	6	0	-3	0	0	0	0	0	3	5
Petroleum Coke	0	273	0	6	0	0	0	0	0	279	492
Asphalt	0	699	0	563	0	0	0	0	(s)	1,261	2,438
Road Oil	0	4	0	0	0	0	0	0	0	4	3
Still Gas	0	553	0	0	0	0	0	0	0	553	0
Miscellaneous Products	12	24	0	(s)	0	0	0	0	0	36	2
Total	20,626	14,612	1,817	2,300	-7,287	0	-16	14,476	2	17,574	31,689

1 Unaccounted for crude oil is a balancing item.

2 Total equals refinery fuel use and loss.

3 Includes natural gasoline, isopentane, unfractionated stream, and plant condensate.

(s) Less than 500 barrels.

E Estimated.

Note: Total may not equal sum of components due to independent rounding.

Sources and estimation procedures: See Explanatory Notes on Data Collection and Estimation.

Table 10. PAD District V Supply and Disposition of Crude Oil and Petroleum Products, July 1982
(Thousands of Barrels)

Commodity	Supply					Disposition					
	Field Production	Refinery Production	Imports	Stock Withdrawal (+) or Addition (-)	Unaccounted For Crude Oil ¹	Crude Used Directly and Losses ²	Net Receipts	Refinery Inputs	Exports	Products Supplied	Ending Stocks
Crude Oil (including lease condensate)	E 87,293	0	6,869	-1,942	-4,394	-1,894	-16,761	63,015	6,156	0	82,396
Natural Gas Plant Liquids and LRGs	1,046	1,400	351	-134	0	0	0	1,005	166	1,492	1,633
Liquefied Petroleum Gases	630	1,388	351	-121	0	0	0	711	166	1,371	1,530
Ethane	0	12	0	3	0	0	0	0	0	15	1
Other Products ³	416	0	0	-16	0	0	0	294	0	106	102
Other Liquids	522	0	221	494	0	0	190	2,456	0	-1,029	33,581
Other Hydrocarbons and Alcohol	522	0	0	1	0	0	0	523	0	0	10
Unfinished Oils	0	0	175	1,286	0	0	190	2,037	0	-386	24,862
Motor Gasoline Blending Components	0	0	47	-848	0	0	0	-159	0	-642	8,621
Aviation Gasoline Blending Components	0	0	0	55	0	0	0	55	0	0	88
Finished Petroleum Products	0	69,016	3,193	-2,262	0	1,856	4,353	0	4,232	71,924	55,662
Finished Motor Gasoline	0	31,054	2,075	-1,866	0	0	2,144	0	41	33,366	19,755
Finished Leaded Motor Gasoline	0	14,991	1,431	-1,698	0	0	870	0	41	15,552	9,952
Finished Unleaded Motor Gasoline	0	15,990	645	-171	0	0	1,274	0	0	17,738	9,758
Gasohol	0	73	0	3	0	0	0	0	0	76	5
Finished Aviation Gasoline	0	282	0	60	0	0	0	0	0	342	558
Naphtha-Type Jet Fuel	0	1,912	0	-110	0	0	264	0	0	2,066	1,418
Kerosene-Type Jet Fuel	0	6,634	225	-198	0	0	336	0	32	6,965	6,090
Kerosene	0	161	0	16	0	0	0	0	(⁴)	177	189
Distillate Fuel Oil	0	9,937	310	113	0	354	701	0	380	11,035	10,626
Residual Fuel Oil	0	8,812	343	-138	0	1,502	864	0	1,562	9,820	9,289
Naphtha and Other Oils for Petro. Feed	0	426	63	-14	0	0	0	0	124	351	382
Special Naphthas	0	139	174	9	0	0	0	0	3	319	339
Lubricants	0	459	(⁵)	-32	0	0	44	0	51	420	1,462
Waxes	0	52	4	12	0	0	0	0	3	64	47
Petroleum Coke	0	3,471	0	-222	0	0	0	0	2,032	1,217	2,584
Asphalt	0	1,785	0	283	0	0	0	0	1	2,067	2,528
Road Oil	0	21	0	-32	0	0	0	0	0	-11	33
Still Gas	0	3,578	0	0	0	0	0	0	0	3,578	0
Miscellaneous Products	0	293	0	-143	0	0	0	0	3	147	362
Total	88,861	70,416	10,635	-3,844	-4,394	-38	-12,218	66,476	10,555	72,388	173,272

¹ Unaccounted for crude oil is a balancing item.² Total equals refinery fuel use and loss.³ Includes natural gasoline, isopentane, unrefined stream, and plant condensate.⁴ Less than 500 barrels.

E Estimated.

Note: Total may not equal sum of components due to independent rounding.

Sources and estimation procedures: See Explanatory Notes on Data Collection and Estimation.

**Table 11. Production of Crude Oil (Including Lease Condensate) by PAD District and State, for the Most Current Month,¹ May 1982
(Thousands of Barrels)**

PAD District and State	Production	
	Total	Daily Average
PAD District I		
Florida	2,204	71
New York	E 67	2
Pennsylvania	E 207	7
Virginia	0	0
West Virginia	E 198	6
Total	E 2,676	86
PAD District II		
Illinois	2,221	72
Indiana	E 580	19
Kansas	5,935	191
Kentucky	E 547	18
Michigan	2,516	81
Missouri	E 7	(s)
Nebraska	594	19
North Dakota	3,934	127
Ohio	E 1,154	37
Oklahoma	14,153	457
South Dakota	99	3
Tennessee	108	3
Total	E 31,848	1,027
PAD District III		
Alabama	1,768	57
Arkansas	E 1,576	51
Louisiana		
Gulf Coast	35,879	1,157
Rest Of State	2,973	96
Total Louisiana	38,852	1,253
Mississippi	2,952	95
New Mexico		
Northwestern	514	17
Southeastern	5,472	177
Total New Mexico	5,986	193
Texas		
TRRC District 01	2,264	73
TRRC District 02	3,463	112
TRRC District 03	11,653	376
TRRC District 04	2,438	79
TRRC District 05	670	22
TRRC District 06, excluding East Texas	3,567	115
TRRC District 07B	2,743	88
TRRC District 07C	2,817	91
TRRC District 08	19,606	632
TRRC District 08A	20,349	656
TRRC District 09	3,153	102
TRRC District 10	1,798	58
East Texas	4,504	145
Total Texas	79,025	2,549
Total	130,159	4,199

—Continued

PAD District and State	Production	
	Total	Daily Average
PAD District IV		
Colorado	2,811	91
Montana	2,597	84
Utah	E 1,949	63
Wyoming	E 11,089	358
Total	E 18,446	595
PAD District V		
Alaska		
South Alaska	2,302	74
North Slope	50,621	1,633
Total Alaska	52,923	1,707
Arizona	28	1
California		
Central Coastal	6,395	206
East Central	20,578	684
North	17	1
South	6,947	224
Total California	33,937	1,095
Nevada	47	2
Total	86,935	2,804
United States Total	E 270,064	8,712

¹ Includes offshore production.

(s) Less than 500 barrels.

Sources: See Explanatory Notes on Data Collection and Estimation

E Estimated.

**Table 12. Offshore Production of Crude Oil (including Lease Condensate) By State, for the Most Current Month,¹ May 1982
(Thousands of Barrels)**

State	Offshore Production	
	Total	Daily Average
Alaska ²	2,038	66
California		
Federal	2,298	74
State	3,418	110
California, Total	5,716	184
Louisiana		
Federal	22,693	732
State	2,092	67
Louisiana, Total	24,785	800
Texas		
Federal	1,518	49
State	127	4
Texas, Total	1,645	53
United States Total	34,184	1,103

¹ These production data are included in Table 11.

² All offshore production within State boundaries.

Note: Total may not equal sum of components due to independent rounding.

Sources: See Explanatory Notes on Data Collection and Estimation.

**Table 13. Production of Lease Condensate by State, for the Most Current Month,¹ May 1982
(Thousands of Barrels)**

State	Lease Condensate Production	
	Total	Daily Average
Alabama	711	23
California	12	(s)
Louisiana	5,771	186
Mississippi	161	5
New Mexico	371	12
Oklahoma	961	31
Texas	3,678	119
Total	11,665	376

¹ These production data are included in Table 11. Small amounts of lease condensate are known to be produced in states other than those listed, however, statistics on this production are not available.

(s) Less than 500 barrels.

Note: Total may not equal sum of components due to independent rounding.

Sources: See Explanatory Notes on Data Collection and Estimation.

Table 14. Natural Gas Processing Plant Production of Petroleum Products by PAD District, July 1982
(Thousands of Barrels)

Commodity	PAD District I			PAD District II					PAD District III				PAD District IV		PAD District V		United States
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., Ky.	Wisc., Daks.	Minn., Kans., Mo.	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No. La., Ark.	New Mexico	Total	Rocky Mts.	Dist. V West	Coast	
Natural Gas Plant Liquids	637	371	1,008	0	2,080	387	5,912	8,379	18,329	2,806	8,909	813	3,382	34,238	2,078	1,046	46,749
Isopentane	0	0	0	0	0	0	0	204	406	118	117	0	0	641	2	0	846
Natural Gasoline	92	37	128	0	69	94	1,178	1,340	2,212	-1,610	1,466	134	269	2,470	374	457	4,769
Unfractionated Stream	0	1	1	0	1,014	63	-2,362	-1,285	7,504	-8,964	540	188	2,306	1,573	985	-40	1,233
Plant Condensate	0	0	0	0	52	0	27	79	251	675	39	-81	1	885	10	0	974
Liquefied Petroleum Gases and Ethane	545	334	879	0	946	231	6,866	8,043	7,956	12,587	6,746	573	806	28,668	707	630	38,926
Ethane	221	179	399	0	430	0	1,171	1,601	1,244	2,439	2,156	33	74	5,946	5	0	7,951
Propane	188	105	294	0	395	142	2,590	3,127	2,849	3,944	2,207	148	349	9,498	454	352	13,724
Butane	114	33	146	0	76	77	1,097	1,251	1,443	2,314	854	215	150	4,976	239	227	6,839
Butane-Propane Mixtures	0	0	0	0	0	0	0	65	26	0	1	11	0	103	3	28	134
Ethane-Propane Mixtures	0	0	0	0	0	0	1,581	1,753	2,718	722	10	10	166	5,369	0	0	6,950
Isobutane	22	17	40	0	45	12	425	483	603	1,146	807	155	66	2,776	6	23	3,328
Finished Motor Gasoline	34	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	34
Finished Leaded Motor Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finished Unleaded Motor Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gasohol	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finished Aviation Gasoline	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Naphtha-Type Jet Fuel	0	0	0	0	0	0	0	0	80	0	0	0	0	80	0	0	80
Kerosene-Type Jet Fuel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kerosene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Distillate Fuel Oil	0	0	0	0	0	0	0	0	1	0	0	0	2	4	0	0	4
Special Naphthas	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	2
Miscellaneous Products	0	0	0	0	0	0	0	0	51	0	0	0	0	51	0	0	51
Total Production	671	371	1,042	0	2,082	387	5,924	8,394	18,659	2,809	8,911	817	3,387	34,583	2,090	1,046	47,156

¹ Production represents quantity of natural gas processing plant output less input to fractionating facilities.

(s) Less than 500 barrels.

Note: Total may not equal sum of components due to independent rounding.

Source: See Explanatory Notes on Data Collection and Estimation.

Table 15. Refinery Input of Crude Oil and Petroleum Products by PAD District, July 1982
(Thousands of Barrels, Except Where Noted)

Commodity	PAD District I			PAD District II							PAD District III				PAD District IV		United States
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., Ky	Wisc., Dak.	Okla., Kans., Mo.	Total	Texas Inland	Texas Gulf Coast	La., Gulf Coast	No. La., Ark.	New Mexico	Total	Rocky Mts.	Dist. V West Coast	
Crude Oil (including lease condensate)	37,410	2,600	40,010	1,744	58,621	8,521	25,012	93,898	14,889	87,820	64,162	5,494	2,721	175,086	13,844	63,015	385,853
Natural Gas Plant Liquids																	
Natural Gasoline and Isopentane	19	0	19	0	631	389	996	2,016	1,043	2,223	251	100	205	3,822	91	294	6,242
Unfractionated Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plant Condensate	0	0	0	0	121	0	19	140	55	740	0	280	0	1,075	93	0	1,308
LPG and Ethane	170	3	173	117	1,639	272	771	2,799	529	1,296	1,869	124	31	3,849	309	711	7,841
Ethane	0	0	0	0	0	0	0	0	0	63	45	0	0	108	0	0	108
Propane	0	0	0	0	46	0	0	46	0	0	125	0	0	125	12	0	183
Normal Butane	10	0	10	37	688	124	178	1,027	89	821	1,425	21	0	2,356	50	130	3,573
Other Butanes	0	0	0	0	32	114	67	213	86	52	146	0	0	284	185	203	885
Butane-Propane Mixtures	0	0	0	0	4	0	0	4	0	72	19	0	0	91	6	0	101
Ethane-Propane Mixtures	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Isobutane	160	3	163	80	869	34	526	1,509	354	288	109	103	31	885	56	378	2,991
Other Liquids																	
Other Hydrocarbons	141	1	142	0	416	0	0	416	5	330	249	0	0	584	71	517	1,730
Alcohol	0	60	60	0	0	0	0	0	0	0	0	0	0	0	0	6	66
Unfinished Oil (net)	1,993	9	2,002	34	1,355	-58	457	1,788	600	6,417	1,288	115	68	8,488	-203	2,037	14,112
Motor Gasoline Blending																	
Components (net)	562	99	661	-23	527	-17	-462	25	-725	796	2,572	17	-101	2,559	271	-159	3,357
Aviation Gasoline Blending																	
Components (net)	0	0	0	0	1	0	5	6	-136	-24	0	0	0	-160	0	55	-99
Total Input to Refineries	40,295	2,772	43,067	1,872	63,311	9,107	26,798	101,088	16,260	99,598	70,391	6,130	2,924	195,303	14,476	66,476	420,410
Crude Oil Distillation																	
Gross Input (daily average)	1,267	87	1,354	61	1,960	293	817	3,130	507	2,881	2,172	190	95	5,844	453	2,114	12,896
Operable Capacity (daily average)	1,633	162	1,795	66	2,362	295	965	3,688	628	4,118	2,756	284	120	7,907	608	3,148	17,146
Operating Ratio (percent) ¹	77.6	53.8	75.4	92.6	83.0	99.3	84.6	84.9	80.7	70.0	78.8	66.7	79.2	73.9	74.6	67.1	75.2
Crude Oil Qualities																	
Sulfur Content, Weighted Average (percent)	1.20	23	1.13	94	.91	1.54	54	87	.64	.86	.89	1.41	24	.86	81	1.00	.91
API Gravity, Weighted Average	32.56	40.82	33.09	35.30	34.64	31.31	37.41	35.09	37.90	34.25	33.56	32.53	40.03	34.33	36.08	25.83	33.02

¹ Represents gross input divided by operable capacity.

Note: Total may not equal sum of components due to independent rounding.

Source: See Explanatory Notes on Data Collection and Estimation.

Table 16. Refinery Production of Petroleum Products by PAD District, July 1962
(Thousands of Barrels)

Commodity	PAD District I			PAD District II					PAD District III				PAD District IV		United States		
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., Ky.	Minn., Wisc., Dak.	Okla., Kans., Mo.	Total	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No. La., Ark.	New Mexico	Total		Rocky Mt.	Dist. V
Liquefied Petroleum Gases and Ethane	1,329	14	1,343	33	1,665	188	524	2,410	224	2,440	1,250	75	80	4,069	74	1,400	9,296
For Petrochemical Feedstock Use	346	0	346	0	186	1	45	232	12	1,293	216	6	0	1,527	-8	219	2,316
For Other Uses	983	14	997	33	1,479	187	479	2,178	212	1,147	1,034	69	80	2,542	82	1,181	6,980
Ethane	0	0	0	0	19	0	0	19	0	78	8	0	0	86	4	12	121
For Petrochemical Feedstock Use	0	0	0	0	0	0	0	0	0	78	8	0	0	86	0	0	86
For Other Uses	0	0	0	0	19	0	0	19	0	0	0	0	0	0	4	12	35
Propane	1,058	14	1,072	33	1,629	185	602	2,449	209	2,215	1,242	60	53	3,779	161	903	8,364
For Petrochemical Feedstock Use	308	0	308	0	186	0	45	231	0	876	105	0	0	981	1	176	1,697
For Other Uses	750	14	764	33	1,443	185	557	2,218	209	1,339	1,137	60	53	2,798	160	727	6,667
Butane	247	0	247	0	17	3	-78	-58	3	121	70	13	21	228	-68	424	777
For Petrochemical Feedstock Use	38	0	38	0	0	1	0	1	0	361	85	6	0	452	0	43	534
For Other Uses	209	0	209	0	17	2	-78	-59	3	-240	-15	7	21	-224	-68	381	239
Butane-Propane Mixtures	24	0	24	0	0	0	0	0	0	48	-70	2	6	-14	-14	61	57
For Petrochemical Feedstock Use	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	0	18
For Other Uses	24	0	24	0	0	0	0	0	0	48	-88	2	6	-32	-14	61	39
Isobutane for Petro. Feed. Use	0	0	0	0	0	0	0	0	12	-22	0	0	0	-10	-9	0	-19
Finished Motor Gasoline	19,321	987	20,308	1,023	35,698	5,103	15,117	56,941	8,176	47,766	35,050	2,007	1,341	94,340	7,742	31,054	210,385
Finished Leaded Motor Gasoline	8,044	492	8,536	517	16,396	2,955	8,903	28,771	3,917	19,021	17,280	1,330	768	42,316	4,934	14,991	99,548
Finished Unleaded Motor Gasoline	11,277	495	11,772	506	19,279	2,148	6,210	28,143	4,258	28,745	17,770	677	573	52,023	2,808	15,990	110,736
Gasohol	0	0	0	0	23	0	4	27	1	0	0	0	0	1	0	73	101
Finished Aviation Gasoline	11	0	11	0	121	0	60	181	3	247	72	0	0	322	40	282	836
Naphtha-Type Jet Fuel	483	111	594	20	418	66	476	980	749	1,335	424	232	315	3,055	387	1,912	6,928
Kerosene-Type Jet Fuel	1,408	4	1,412	48	2,844	170	529	3,591	715	3,426	6,569	14	31	10,755	557	6,634	22,949
Kerosene	43	-21	22	0	382	37	-33	386	63	949	1,069	4	-6	2,079	5	161	2,653
Distillate Fuel Oil	8,310	700	9,010	469	12,469	1,943	7,191	22,072	3,608	21,871	11,836	1,601	921	39,837	3,898	9,937	84,754
Distillate Fuel Oil Less No. 4	8,310	696	9,006	469	12,449	1,943	7,191	22,052	3,596	21,689	12,191	1,529	724	39,729	3,866	9,833	84,486
No. 4 Fuel Oil	0	4	4	0	20	0	0	20	12	182	-355	72	197	108	32	104	268
Residual Fuel Oil	3,726	213	3,939	74	2,249	462	614	3,399	669	7,004	7,150	500	122	15,445	312	8,812	31,907
Naphtha < 400 Deg. For Petro. Feed. Use	482	0	482	0	91	0	97	188	456	3,162	-153	1	0	3,466	2	241	4,379
Other Oils > 400 Deg. For Petro. Feed. Use	173	1	174	0	1,698	0	1	1,699	291	3,260	2,648	54	0	6,253	0	185	8,311
Special Naphthas	6	18	24	0	272	0	201	473	129	988	19	244	0	1,380	7	139	2,023
Lubricants	166	384	550	0	513	0	311	824	19	1,808	652	215	0	2,694	29	459	4,556
Bright Stock	9	130	139	0	20	0	2	22	0	100	83	0	0	183	3	30	377
Neutral	58	215	273	0	397	0	240	637	0	673	493	82	0	1,248	28	299	2,485
Other Grades	99	39	138	0	96	0	69	165	19	1,035	76	133	0	1,263	-2	130	1,694
Wax	13	82	95	0	-15	0	25	10	7	141	46	34	0	228	6	52	391
Microcrystalline	0	27	27	0	0	0	17	17	7	7	19	0	34	0	60	0	104
Crystalline-Fully Refined	5	12	17	0	-16	0	4	-12	0	69	46	0	0	115	6	35	161
Crystalline-Other	8	43	51	0	1	0	4	5	0	53	0	0	0	53	0	17	126
Petroleum Coke	1,333	2	1,335	30	2,022	345	958	3,355	315	2,794	1,683	125	10	4,927	273	3,471	13,361
Marketable	562	0	562	0	1,165	219	567	1,951	67	1,295	976	102	0	2,440	129	2,593	7,675
Catalyst	771	2	773	30	857	126	391	1,404	248	1,499	707	23	10	2,487	144	878	5,686
Asphalt	3,115	42	3,157	155	2,488	646	661	3,950	591	689	1,278	826	94	3,478	699	1,785	13,069
Road Oil	0	0	0	0	20	0	6	26	0	0	0	0	0	0	4	21	51
Still Gas	1,816	125	1,941	78	2,669	274	1,141	4,162	436	5,212	2,820	201	56	8,725	553	3,578	18,959
For Petrochemical Feedstock Use	42	0	42	0	1	0	0	1	5	308	113	0	0	426	25	51	545
For Other Uses	1,774	125	1,899	78	2,668	274	1,141	4,161	431	4,904	2,707	201	56	8,299	528	3,527	18,414
Miscellaneous Products	617	44	661	3	127	22	53	205	106	795	332	46	0	1,279	24	293	2,462
Total Output	42,352	2,706	45,058	1,933	65,731	9,256	27,932	104,852	16,557	103,887	72,745	6,179	2,964	202,332	14,612	70,416	437,270
Processing Gain(-) or Loss(+)	-2,057	66	-1,991	-61	-2,420	-149	-1,134	-3,764	-297	-4,289	-2,354	-49	-40	-7,029	-136	-3,940	-16,860

1 Represents the arithmetic difference between input and output.
Notes: Total may not equal sum of components due to independent rounding.
See Explanatory Notes on negative product yield.
Source: See Explanatory Notes on Data Collection and Estimation.

Table 17. Percent Refinery Yield of Petroleum Products by PAD District,¹ July 1982

Commodity	PAD District I			PAD District II					PAD District III					PAD District IV		United States	
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., Ky	Minn., Wisc., Daks	Okl., Kans., Mo.	Total	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No La., Ark	New Mexico	Total	Dist. IV Rocky Mt		PAD Dist. V West Coast
Finished Motor Gasoline ²	46.8	31.6	45.8	52.2	54.0	52.7	54.2	53.9	46.9	45.0	46.0	26.5	43.2	44.9	50.6	45.6	47.5
Liquified Aviation Gasolines ³	(s)	0	(s)	0	.2	0	2	.2	9	.3	.1	0	0	.3	3	3	2
Liquified Refinery Gases & Ethane	3.4	.5	3.2	1.9	2.8	2.2	2.1	2.5	1.4	2.6	1.9	1.3	2.9	2.2	5	2.2	2.3
Naphtha-Type Jet Fuel	1.2	4.3	1.4	1.1	7	8	1.9	1.0	4.8	1.4	6	4.1	11.3	1.7	2.8	2.9	1.7
Kerosene-Type Jet Fuel	3.6	.2	3.4	2.7	4.7	2.0	2.1	3.8	4.6	3.6	10.0	2	1.1	5.9	4.1	10.2	5.7
Kerosene	.1	-.8	1	0	6	4	-.1	4	.4	1.0	1.6	1	-2	1.1	(s)	2	7
Distillate Fuel Oil	21.1	26.8	21.4	26.4	20.8	23.0	28.2	23.1	23.3	23.2	18.1	28.5	33.0	21.7	28.6	15.3	21.2
Residual Fuel Oil	9.5	8.2	9.4	4.2	3.7	5.5	2.4	3.6	4.3	7.4	10.9	8.9	4.4	8.4	2.3	13.5	8.0
Naphtha < 400 Deg. F. Petro. Feed. Use	1.2	0	1.1	0	.2	0	.4	-.2	2.9	3.4	-.2	(s)	0	1.9	(s)	4	1.1
Other Oils > 400 Deg. F. Petro. Feed. Use	4	(s)	4	0	2.8	0	(s)	1.8	1.9	3.5	4.0	10	0	3.4	0	3	2.1
Special Naphthas	(s)	7	1	0	.5	0	.8	.5	.8	1.0	(s)	4.4	0	8	1	.2	5
Lubricants	.4	14.7	13	0	.9	0	12	9	1	1.9	1.0	3.8	0	15	2	.7	1.1
Wax	(s)	3.1	.2	0	(s)	0	1	(s)	(s)	.1	.1	.6	0	1	(s)	.1	1.1
Petroleum Coke	3.4	.1	3.2	1.7	3.4	4.1	3.8	3.5	2.0	3.0	2.6	2.2	4	2.7	2.0	5.3	3.3
Asphalt	7.9	1.6	7.5	8.7	4.1	7.6	2.6	4.1	3.8	7	2.0	14.7	3.4	1.9	5.1	2.7	3.3
Road Oil	0	0	0	0	(s)	0	(s)	(s)	0	0	0	0	0	0	(s)	(s)	(s)
Still Gas for Petro. Feed. Use	.1	0	.1	0	(s)	0	0	(s)	(s)	3	.2	0	0	2	2	.1	.1
Still Gas for Other Uses	4.5	4.8	4.5	4.4	4.4	3.2	4.5	4.3	2.8	5.2	4.1	3.6	2.0	4.5	3.9	5.4	4.6
Miscellaneous Products	1.6	1.7	1.6	2	2	3	.2	.2	.7	8	5	8	0	.7	.2	5	6
Processing Gain(-) or Loss(+) ⁴	-5.2	2.5	-4.7	-3.4	-4.0	-1.8	-4.5	-3.9	-1.9	-4.6	-3.6	-.9	-1.4	-3.8	-1.0	-6.1	-4.2

1 Based on crude oil input and net returns of unfinished oils
2 Based on total finished motor gasoline output plus

¹ Based on crude oil input and net returns of unfinished oils

² Based on total finished motor gasoline output plus net output of motor gasoline blending components, minus input of natural gas plant liquids, other hydrocarbons and alcohol

³ Based on finished aviation gasoline output plus net output of aviation gasoline blending components.

⁴ Represents the arithmetic difference between Input and Production

Note: Total may not equal sum of components due to independent rounding.

See Explanatory Notes on negative product yields

Source See Explanatory Notes on Data Collection and Estimation.

Table 18. Refinery Receipts of Crude Oil by PAD District, July 1982
(Thousands of Barrels)

Method	PAD District I			PAD District II					PAD District III					PAD District IV			United States
	East Coast #1	Appalachian Total	Appalachian #2	Ind., Ill. #3	Wisc., Daks. #4	Minn., Kans., Mo. #5	Total	Texas Inland	Texas Gulf Coast	La., Ark. #6	New Mexico	Total	Rocky Mtn. #7	Dist. V West Coast			
Pipeline																	
Domestic	0	1,845	1,333	37,789	4,006	23,124	66,252	12,937	47,904	29,775	3,578	2,143	96,337	11,644	27,662	203,740	
Foreign	0	0	380	18,193	4,332	801	23,706	1,014	14,089	3,524	716	0	19,343	1,294	737	45,080	
Tanker																	
Domestic	4,601	0	0	0	0	0	0	0	4,898	4,842	0	0	9,740	0	29,756	44,097	
Foreign	25,910	0	0	0	0	0	0	0	15,686	22,320	0	0	38,006	0	6,284	70,200	
Barge																	
Domestic	0	29	0	1,030	0	0	1,030	19	4,856	4,987	77	0	9,939	0	263	11,261	
Foreign	5,576	0	0	1,153	0	0	1,153	0	142	585	374	0	1,101	0	0	7,830	
Tank Cars																	
Domestic	81	264	0	0	0	0	0	0	0	0	20	0	20	0	0	365	
Foreign	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Trucks																	
Domestic	0	326	111	434	15	929	1,489	825	216	436	958	466	2,901	966	1,584	7,266	
Foreign	0	0	0	0	0	0	0	193	0	0	0	0	193	1	0	194	
Total																	
Domestic	4,682	2,464	1,444	39,253	4,021	24,053	68,771	13,781	57,874	40,040	4,633	2,609	118,937	12,610	59,265	266,729	
Foreign	21,486	31,486	380	19,346	4,332	801	24,859	1,207	29,917	26,429	1,090	0	58,643	1,295	7,021	123,304	

Note: Total may not equal sum of components due to independent rounding.

Source: See Explanatory Notes on Data Collection and Estimation.

Table 19. Fuels Consumed at Refineries by PAD District, July 1982
(Thousands of Barrels, Except Where Noted)

(Thousands of Barrels, Except where noted)

Commodity	PAD District I			PAD District II					PAD District III				PAD District IV		United States			
	East Coast #1	Appalachian #2	Total	Ind., Ill.	Ky.	Wisc., Daks.	Minn., Mo.	Okl., Kans.	Total	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No. La., Ark.	New Mexico		Total	Rocky Mt.	Dist. V West Coast
Crude Oil (including lease condensate)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	(s)	1,006
Liquefied Petroleum Gases ¹	42	6	48	0	123	0	23	23	169	2	50	0	0	0	0	0	0	0
Unfinished Oils	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Distillate Fuel Oil	43	21	64	0	6	0	0	0	6	16	0	3	0	(s)	19	2	13	105
Residual Fuel Oil	572	48	620	10	346	29	23	23	408	6	113	62	11	0	193	67	257	1,544
Marketable Petroleum Coke	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	49	58
Catalyst Petroleum Coke	771	18	789	30	836	76	324	76	1,266	248	1,500	706	23	10	2,487	144	880	5,566
Still Gas	1,490	126	1,616	78	2,630	219	953	3,880	359	4,620	2,600	194	56	7,828	521	3,367	17,212	214
Other Fuels ²	0	0	0	0	84	0	0	84	0	0	40	(s)	0	0	40	0	90	214
Natural Gas (million cubic feet)	1,491	241	1,732	33	2,132	37	3,724	37	5,927	2,773	17,556	5,943	809	120	27,201	1,026	7,082	42,967
Coal (thousand short tons)	0	10	10	0	0	0	0	0	0	0	28	0	0	0	28	0	0	38
Purchased Electricity (million kWh)	234	30	264	14	364	50	159	587	79	403	429	25	24	959	79	570	2,459	2,391
Purchased Steam (million pounds)	649	7	656	0	117	0	(s)	117	(s)	0	988	0	0	988	0	630	2,391	2,391

¹ Includes liquefied refinery gases.

² Includes small quantities of other petroleum products (e.g., unfinished oils, kerosene, etc.) consumed at refineries.

(s) Less than 500 barrels except where noted

Note: Total may not equal sum of components due to independent rounding.

Source: See Explanatory Notes on Data Collection and Estimation.

Table 20. Imports of Crude Oil and Petroleum Products by PAD District, July 1982
(Thousands of Barrels)

Commodity	Petroleum Administration for Defense District					
	I	II	III	IV	V	Total
Crude Oil (including lease condensate) ^{1 2}	32,234	22,867	68,202	1,415	6,869	131,566
Natural Gas Liquids	405	5,310	2,117	401	351	8,584
Natural Gasoline and Isopentane	(s)	0	1,315	0	0	1,316
Plant Condensate	92	0	0	135	0	227
Liquefied Petroleum Gases and Ethane	312	5,310	802	267	351	7,042
Ethane	0	1,721	0	0	0	1,721
Propane	201	831	0	139	53	1,324
Butane	111	770	94	128	298	1,401
Butane-Propane Mixtures	0	0	708	0	0	708
Ethane-Propane Mixtures	0	1,888	0	0	0	1,888
Other Liquids ¹	2,534	530	2,025	0	221	5,310
Unfinished Oils ¹	1,833	121	2,025	0	175	4,155
Motor Gasoline Blending Components	701	408	0	0	47	1,156
Finished Petroleum Products	23,061	664	6,248	1	3,193	33,167
Finished Motor Gasoline	4,068	62	(s)	0	2,075	6,205
Finished Leaded Motor Gasoline	2,415	59	(s)	0	1,431	3,905
Finished Unleaded Motor Gasoline	1,653	2	0	0	645	2,300
Finished Aviation Gasoline	(s)	0	0	0	0	(s)
Naphtha-Type Jet Fuel	250	0	0	0	0	250
Kerosene-Type Jet Fuel	0	0	0	0	0	0
Bonded Aircraft Fuel	0	0	0	0	0	0
Other	0	0	0	0	225	225
Kerosene	148	0	0	0	0	148
Distillate Fuel Oil	3,417	100	10	(s)	310	3,837
Bonded ships bunkers	0	0	0	0	0	0
For military offshore use	0	0	0	0	0	0
No. 2 fuel oil	3,417	100	10	(s)	300	3,828
No. 4 fuel oil	0	0	0	0	9	9
Residual Fuel Oil	13,734	303	3,463	0	343	17,843
Bonded ships bunkers	0	0	0	0	0	0
For military offshore use	0	0	0	0	0	0
Other	13,734	303	3,463	0	343	17,843
Naphtha < 400 Deg. for Petro. Feed. Use	991	0	2,699	0	63	3,753
Other Oils > 400 Deg. for Petro. Feed. Use	0	0	0	0	0	0
Special Naphthas	19	127	9	(s)	174	330
Lubricants	233	49	46	1	(s)	330
Wax	3	3	20	0	4	29
Asphalt	195	19	0	0	0	214
Miscellaneous Products	1	2	1	0	0	3
Total Imports	58,233	29,370	78,593	1,817	10,635	178,648

¹ Crude oil and unfinished oils are reported by the PAD District in which they are to be processed; all other products are reported by the PAD District of entry.

² Includes crude oil imported for storage in the Strategic Petroleum Reserve.

(s) Less than 500 barrels.

Note: Total may not equal sum of components due to independent rounding.

Sources: See Explanatory Notes on Data Collection and Estimation.

Source	Crude Oil 1	LPG and Ethane	Unfinished Oils	Gasoline Blending Components	Finished Motor Gasoline	Jet Fuel	Kerosene	Distill. Fuel Oil	Resid. Fuel Oil	Special Naphthas	Other Products 2	Total Products	Total Petroleum	Total (Daily Average)
All PAD Districts														
Arab OPEC														
Algeria	2,276	0	266	0	0	0	0	221	1,034	0	0	1,521	3,797	122
Kuwait	0	0	0	0	0	0	0	0	533	0	0	533	533	17
Qatar	639	0	0	0	0	0	0	0	0	0	0	0	0	21
Saudi Arabia	18,309	0	195	0	0	0	0	0	635	0	834	1,664	19,972	644
United Arab Emirates	2,871	0	0	458	0	0	0	0	0	0	481	939	3,810	123
Subtotal Arab OPEC	24,095	0	461	458	0	0	0	221	2,201	0	1,315	4,657	28,752	927
Other OPEC														
Ecuador	1,090	0	0	0	0	0	0	0	0	0	0	0	1,090	35
Gabon	689	0	0	0	0	0	0	0	0	0	0	0	689	22
Indonesia	9,685	0	0	0	185	0	0	87	178	0	0	450	10,135	327
Iran	2,153	0	0	0	0	0	0	0	0	0	0	0	2,153	69
Nigeria	28,224	0	0	0	0	0	0	0	0	(s)	0	(s)	28,224	910
Venezuela	4,654	0	595	0	253	0	0	495	4,811	0	0	6,155	10,808	349
Subtotal Other OPEC	46,496	0	595	0	438	0	0	582	4,969	(s)	0	6,605	53,100	1,713
Other														
Angola	2,257	0	0	0	0	0	0	0	0	0	0	0	2,257	73
Australia	0	94	278	0	0	0	0	0	0	0	0	0	372	12
Bahamas	0	0	209	0	0	0	0	0	734	0	0	0	943	30
Brazil	447	0	0	0	734	0	0	0	0	0	0	734	1,181	38
Brunei	0	0	0	0	0	0	0	19	0	0	0	19	19	1
Canada	7,854	6,172	125	419	588	0	0	157	541	165	506	8,672	16,326	527
France	0	0	0	0	0	0	0	0	172	0	59	232	232	7
Ghana	0	0	0	0	0	0	0	0	399	0	0	399	399	13
Malaysia	1,953	0	0	0	(s)	0	0	0	0	1	8	1,205	24,266	783
Mexico	23,061	708	0	0	252	0	0	17	472	0	0	533	533	17
Netherlands	0	67	1,116	0	260	0	0	42	3,089	0	391	4,897	4,897	158
Netherlands Antilles	0	0	0	0	0	0	0	0	0	0	0	0	0	145
Norway	4,481	0	175	0	1,051	0	0	7	70	156	(s)	1,459	2,559	83
People's Republic of China	1,101	0	0	0	0	0	0	0	262	0	0	262	670	22
Peru	408	0	334	0	135	0	0	460	0	0	246	1,176	1,176	38
Puerto Rico	0	0	0	0	0	0	0	217	0	0	16	233	3,445	111
Trinidad and Tobago	3,212	0	0	0	0	0	0	0	0	0	0	0	0	(s)
Tunisia	1	0	0	0	0	0	0	0	0	0	0	0	1	1
United Kingdom	13,412	0	0	0	0	0	0	0	0	0	(s)	(s)	13,412	433
Virgin Islands	0	0	88	0	2,463	475	148	1,342	3,702	0	3,221	11,439	11,439	369
Zaire	666	0	0	0	0	0	0	0	0	0	0	0	666	21
Other Western Hemisphere														
Hemisphere	142	0	0	0	0	0	0	0	585	8	0	593	735	24
Other Eastern Hemisphere	2,200	(s)	775	279	285	0	0	559	626	0	109	2,633	4,833	156
Subtotal Other	60,996	7,042	3,099	698	5,767	475	148	3,033	10,652	330	4,556	35,800	96,796	3,122
Total Imports	131,586	7,042	4,155	1,156	6,205	475	148	3,837	17,843	330	5,872	47,062	178,648	5,763

See footnotes at end of table.

Table 21. Imports of Crude Oil and Petroleum Products by Source and PAD District, July 1982
(Thousands of Barrels)

Source	Crude Oil 1	LPG and Ethane	Unfinished Oils	Gasoline Blending Components	Finished Motor Gasoline	Jet Fuel	Kerosene	Distil. Fuel Oil	Resid. Fuel Oil	Special Naphthas	Other Products 2	Total Products	Total Petroleum	Total (Daily Average)
PAD District I														
Arab OPEC														
Algeria	810	0	266	0	0	0	0	221	687	0	0	1,174	1,984	64
Saudi Arabia	6,557	0	195	0	0	0	0	0	0	0	0	195	6,752	218
United Arab Emirates	0	0	0	458	0	0	0	0	0	0	0	458	458	15
Subtotal Arab OPEC	7,367	0	461	458	0	0	0	221	687	0	0	1,827	9,194	297
Other OPEC														
Ecuador	705	0	0	0	0	0	0	0	0	0	0	0	705	23
Indonesia	3,162	0	0	0	0	0	0	0	0	0	0	0	3,162	102
Nigeria	4,943	0	0	0	0	0	0	0	0	0	0	0	4,943	159
Venezuela	2,037	0	319	0	253	0	0	495	3,457	0	0	4,535	6,573	212
Subtotal Other OPEC	10,847	0	319	0	253	0	0	495	3,457	0	0	4,535	15,383	496
Other														
Angola	464	0	0	0	0	0	0	0	0	0	0	0	464	15
Bahamas	0	0	0	0	0	0	0	0	734	0	0	734	734	24
Brazil	447	0	0	0	734	0	0	0	0	0	0	734	1,181	38
Canada	0	245	3	0	206	0	0	48	238	19	298	1,057	1,057	34
France	0	0	0	0	0	0	0	0	172	0	0	232	232	7
Ghana	0	0	0	0	0	0	0	0	399	0	0	399	399	13
Mexico	4,251	0	0	0	0	0	0	0	234	0	0	234	4,485	145
Netherlands	0	67	0	0	252	0	0	214	0	0	0	533	533	17
Netherlands Antilles	0	0	716	0	260	0	0	0	3,089	0	391	4,455	4,455	144
Norway	2,562	0	0	0	0	0	0	0	0	0	0	0	2,562	83
People's Republic of China	369	0	0	0	0	0	0	0	0	0	(s)	(s)	369	12
Paru	0	0	0	0	0	0	0	0	262	0	0	262	262	8
Puerto Rico	0	0	334	0	135	0	0	460	0	0	172	1,101	1,101	36
Trinidad and Tobago	459	0	0	0	0	0	0	217	0	0	0	217	678	22
United Kingdom	4,789	0	0	0	0	0	0	0	0	0	(s)	(s)	4,789	154
Virgin Islands	0	0	0	0	1,989	250	148	1,342	3,702	0	597	8,028	8,028	259
Zaire	310	0	0	0	0	0	0	0	0	0	0	0	310	10
Other Western Hemisphere														
Hemisphere	0	0	0	0	0	0	0	0	585	0	0	585	585	19
Other Eastern Hemisphere	369	0	0	243	239	0	0	420	164	0	(s)	1,066	1,435	46
Subtotal Other	14,020	312	1,053	243	3,815	250	148	2,701	9,579	19	1,516	19,636	33,656	1,086
Total Imports	32,234	312	1,833	701	4,068	250	148	3,417	13,734	19	1,516	25,999	58,233	1,878
PAD District II														
Arab OPEC														
Qatar	639	0	0	0	0	0	0	0	0	0	0	0	639	21
Saudi Arabia	689	0	0	0	0	0	0	0	0	0	0	0	689	22
United Arab Emirates	737	0	0	0	0	0	0	0	0	0	0	0	737	24
Subtotal Arab OPEC	2,066	0	0	0	0	0	0	0	0	0	0	0	2,066	67

See footnotes at end of table.

(continued)

Source	Crude Oil 1	LPG and Ethane	Unfinished Oils	Gasoline Blending Components	Finished Motor Gasoline	Jet Fuel	Kerosene	Distill. Fuel Oil	Resid. Fuel Oil	Special Naphthas	Other Products 2	Total Products	Total Petroleum	Total (Daily Average)
PAD District II														
Other OPEC														
Nigeria	5,802	0	0	0	0	0	0	0	0	0	0	0	5,802	187
Subtotal Other OPEC	5,802	0	0	0	0	0	0	0	0	0	0	0	5,802	187
Other														
Canada	5,666	5,310	121	408	62	0	0	100	303	127	72	6,503	12,170	393
France	0	0	0	0	0	0	0	0	0	0	(s)	0	(s)	(s)
Mexico	3,012	0	0	0	0	0	0	0	0	0	0	0	3,012	97
Norway	1,527	0	0	0	0	0	0	0	0	0	0	0	1,527	49
United Kingdom	3,805	0	0	0	0	0	0	0	0	0	0	0	3,805	123
Other Eastern Hemisphere	989	0	0	0	0	0	0	0	0	0	0	0	989	32
Subtotal Other	14,999	5,310	121	408	62	0	0	100	303	127	72	6,503	21,503	694
Total Imports	22,867	5,310	121	408	62	0	0	100	303	127	72	6,503	29,370	947
PAD District III														
Arab OPEC														
Algeria	1,006	0	0	0	0	0	0	0	347	0	0	347	1,353	44
Kuwait	0	0	0	0	0	0	0	0	533	0	0	533	533	17
Saudi Arabia	11,063	0	0	0	0	0	0	0	635	0	834	1,469	12,531	404
United Arab Emirates	2,134	0	0	0	0	0	0	0	0	0	481	481	2,615	84
Subtotal Arab OPEC	14,202	0	0	0	0	0	0	0	1,514	0	1,315	2,829	17,032	549
Other OPEC														
Ecuador	385	0	0	0	0	0	0	0	0	0	0	0	385	12
Gabon	689	0	0	0	0	0	0	0	0	0	0	0	689	22
Indonesia	2,536	0	0	0	0	0	0	0	0	0	0	0	2,536	82
Iran	2,153	0	0	0	0	0	0	0	0	0	0	0	2,153	69
Nigeria	17,480	0	0	0	0	0	0	0	0	(s)	0	(s)	17,480	564
Venezuela	2,616	0	276	0	0	0	0	0	1,343	0	0	1,619	4,235	137
Subtotal Other OPEC	25,859	0	276	0	0	0	0	0	1,343	(s)	0	1,619	27,479	886
Other														
Angola	1,793	0	0	0	0	0	0	0	0	0	0	0	1,793	58
Australia	0	94	278	0	0	0	0	0	0	0	0	372	372	12
Bahamas	0	0	209	0	0	0	0	0	0	0	0	209	209	7
Malaysia	512	0	0	0	0	0	0	0	0	0	0	0	512	17
Mexico	15,798	708	0	0	(s)	0	0	10	238	1	5	962	16,760	541
Netherlands Antilles	0	0	400	0	0	0	0	0	0	0	0	0	400	13
Norway	392	0	0	0	0	0	0	0	0	0	0	0	392	13
People's Republic of China	732	0	0	0	0	0	0	0	0	0	0	0	732	24
Puerto Rico	0	0	0	0	0	0	0	0	0	0	75	75	75	2
Trinidad and Tobago	2,754	0	0	0	0	0	0	0	0	0	16	16	2,770	89
Tunisia	1	0	0	0	0	0	0	0	0	0	0	0	1	(s)
United Kingdom	4,818	0	0	0	0	0	0	0	0	0	0	0	4,818	155
Virgin Islands	0	0	88	0	0	0	0	0	0	0	2,624	2,712	2,712	87
Zaire	356	0	0	0	0	0	0	0	0	0	0	0	356	11

See footnotes at end of table.

Table 21. Imports of Crude Oil and Petroleum Products by Source and PAD District, July 1982
(continued)

Source	Crude Oil 1	LPG and Ethane	Unfinished Oils	Gasoline Blending Components	Finished Motor Gasoline	Jet Fuel	Kerosene	Distil. Fuel Oil	Resid. Fuel Oil	Special Naphthas	Other Products 2	Total Products	Total Petroleum	Total (Daily Average)
PAD District III														
Other														
Other Western Hemisphere	142	0	0	0	0	0	0	0	0	8	0	8	150	5
Other Eastern Hemisphere	843	0	775	0	0	0	0	0	367	0	46	1,189	2,032	66
Subtotal Other	28,141	802	1,750	0	(s)	0	0	10	605	9	2,766	5,943	34,083	1,099
Total Imports	68,202	802	2,025	0	(s)	0	0	10	3,463	9	4,081	10,391	78,593	2,535
PAD District IV														
Other														
Canada	1,415	267	0	0	0	0	0	(s)	0	(s)	135	402	1,817	59
Subtotal Other	1,415	267	0	0	0	0	0	(s)	0	(s)	135	402	1,817	59
Total Imports	1,415	267	0	0	0	0	0	(s)	0	(s)	135	402	1,817	59
PAD District V														
Arab OPEC														
Algeria	460	0	0	0	0	0	0	0	0	0	0	0	460	15
Subtotal Arab OPEC	460	0	0	0	0	0	0	0	0	0	0	0	460	15
Other OPEC														
Indonesia	3,987	0	0	0	185	0	0	87	178	0	0	450	4,437	143
Subtotal Other OPEC	3,987	0	0	0	185	0	0	87	178	0	0	450	4,437	143
Other														
Brunei	0	0	0	0	0	0	0	19	0	0	0	19	19	1
Canada	573	351	0	11	319	0	0	9	0	19	(s)	709	1,282	41
Malaysia	1,440	0	0	0	0	0	0	0	0	0	0	0	1,440	46
Mexico	0	0	0	0	(s)	0	0	5	0	0	4	10	10	(s)
Netherlands Antilles	0	0	0	0	0	0	0	42	0	0	0	42	42	1
People's Republic of China	0	0	175	0	1,051	0	0	7	70	156	0	1,459	1,459	47
Peru	408	0	0	0	0	0	0	0	0	0	0	0	408	13
Virgin Islands	0	0	0	0	474	225	0	0	0	0	0	699	699	23
Other Eastern Hemisphere	0	(s)	0	36	46	0	0	139	94	0	63	378	378	12
Subtotal Other	2,422	351	175	47	1,891	225	0	223	164	174	66	3,316	5,737	185
Total Imports	6,869	351	175	47	2,075	225	0	310	343	174	66	3,766	10,635	343

1 Includes crude oil imported for storage in the Strategic Petroleum Reserve.

2 Includes aviation gasoline, waxes, asphalt, lubricants, natural gasoline, isopentane, plant condensate, naphthas less than 400 degrees F, other oils greater than 400 degrees F and miscellaneous products.

(s) Less than 500 barrels or less than 500 barrels per day.

Note: Total may not equal sum of components due to independent rounding.

Sources: See Explanatory Notes on Data Collection and Estimation.

Table 22. Exports of Crude Oil and Petroleum Products by PAD District, July 1982
(Thousands of Barrels)

Commodity	Petroleum Administration for Defense Districts					
	I	II	III	IV	V	Total
Crude Oil (including lease condensate) ¹	(s)	949	0	0	6,156	7,105
Liquefied Petroleum Gases and Ethane	35	7	945	0	166	1,154
Ethane	(s)	0	(s)	0	0	(s)
Propane	18	2	554	0	68	641
Butane	17	5	392	0	99	512
Butane-Propane Mixtures	0	0	0	0	0	0
Finished Motor Gasoline	164	(s)	553	0	41	758
Naphtha-Type Jet Fuel	0	0	0	0	0	0
Kerosene-Type Jet Fuel	0	0	0	0	32	32
Kerosene	1	0	0	0	(s)	1
Distillate Fuel Oil	105	0	254	0	380	738
Residual Fuel Oil	1	0	5,844	0	1,562	7,406
Naphtha < 400 Deg. for Petrochem. Feedstock	39	3	51	1	12	105
Other Oils > 400 Deg. for Petrochem. Feedstock	(s)	59	299	0	111	469
Special Naphthas	4	1	48	0	3	56
Lubricants	125	13	339	1	51	528
Wax	4	(s)	30	0	3	37
Petroleum Coke	270	431	1,743	(s)	2,032	4,477
Asphalt	3	45	1	1	1	51
Miscellaneous Products	16	1	33	0	3	53
Total Product Exports	767	561	10,139	2	4,399	15,867
Total Exports	767	1,509	10,139	2	10,555	22,972

¹ Exports of crude oil are prohibited under normal circumstances. Some crude oil is shipped to Canada in exchange on a barrel-for-barrel basis. Shipments of crude oil to Puerto Rico and the Virgin Islands are not prohibited because these territories are U.S. possessions.

(s) Less than 500 barrels.

Note: Total may not equal sum of components due to independent rounding.

Sources: See Explanatory Notes on Data Collection and Estimation.

Table 23. Exports of Crude Oil and Petroleum Products by Destination, July 1982
(Thousands of Barrels)

Destination	Crude Oil 1	LPG and Ethane	Finished Motor Gasoline	Jet Fuel	Dist. Fuel Oil	Residual Fuel Oil	Special Naphthas	Lubricants	Wax	Petroleum Coke	Asphalt	Other	Total	Total (Daily Average)
Argentina	0	1	0	0	0	0	0	7	(s)	0	0	(s)	8	(s)
Australia	0	2	0	0	0	95	6	12	(s)	1	(s)	119	225	7
Bahamas	0	35	(s)	0	(s)	948	(s)	1	(s)	0	0	0	986	32
Bahrain	0	0	0	0	0	0	0	(s)	0	63	0	(s)	63	2
Belgium & Luxembourg	0	1	0	0	0	0	0	8	(s)	671	0	(s)	680	22
Brazil	0	0	0	0	(s)	0	8	10	0	95	0	(s)	113	4
Canada	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cameroon	949	14	(s)	0	(s)	109	2	59	2	244	45	81	1,505	49
Chile	0	(s)	0	0	0	0	0	18	(s)	1	(s)	1	21	1
China (Taiwan)	0	(s)	0	0	0	0	0	9	(s)	0	0	1	10	(s)
Colombia	0	5	0	0	0	0	(s)	8	(s)	0	0	1	14	(s)
Costa Rica	0	23	0	0	0	0	(s)	3	(s)	0	0	0	27	1
Denmark	0	1	0	0	0	0	0	(s)	(s)	112	0	(s)	114	4
Dominican Republic	0	21	0	0	0	0	0	1	(s)	0	0	(s)	22	1
Ecuador	0	0	0	0	0	0	(s)	3	(s)	(s)	0	1	4	(s)
Egypt	0	0	0	0	0	0	0	(s)	0	0	0	(s)	1	(s)
El Salvador	0	0	0	0	0	0	1	1	(s)	0	0	(s)	2	(s)
Finland	0	0	0	0	0	0	0	(s)	(s)	95	0	(s)	95	3
France	0	22	0	0	0	420	(s)	22	(s)	1	(s)	2	577	19
French Pacific Isl	0	0	0	0	0	26	(s)	(s)	0	111	(s)	2	102	3
Ghana	0	0	0	0	50	0	0	4	0	29	0	(s)	33	1
Greece	0	0	0	0	(s)	0	0	1	0	0	0	(s)	1	(s)
Guatemala	0	0	0	0	0	0	0	4	1	0	0	1	25	1
Guinea	0	20	0	0	0	0	(s)	0	0	0	0	0	0	0
Honduras	0	0	0	0	0	0	0	(s)	0	0	0	(s)	2	(s)
Hong Kong	0	1	0	0	0	0	1	2	(s)	0	0	(s)	3	(s)
India	0	0	0	0	0	0	0	17	(s)	0	0	(s)	26	1
Indonesia	0	0	0	0	(s)	0	0	8	0	0	0	1	8	(s)
Iran	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Israel	0	(s)	0	0	0	0	0	(s)	(s)	(s)	0	(s)	(s)	(s)
Italy	0	100	0	0	0	366	0	1	(s)	798	(s)	119	1,385	45
Ivory Coast	0	0	0	0	0	0	0	0	0	0	(s)	0	(s)	(s)
Jamaica	0	0	0	0	0	0	(s)	34	(s)	534	(s)	3	35	1
Japan	0	5	(s)	0	334	522	6	5	2	0	0	(s)	1,413	46
Jordan	0	0	0	0	0	0	0	1	0	0	0	(s)	1	(s)
Korea, Republic of	0	0	0	0	0	0	0	2	1	0	2	1	6	(s)
Kuwait	0	0	0	0	0	0	1	2	(s)	0	0	(s)	2	(s)
Lebanon	0	0	0	0	0	0	0	0	0	0	0	(s)	(s)	(s)
Liberia	0	0	0	0	0	(s)	0	0	0	0	0	0	1	(s)
Malaysia	0	0	0	0	0	0	0	1	0	0	0	(s)	1	(s)
Mexico	661	0	732	32	352	0	13	101	2	39	(s)	9	1,941	63
Netherlands	0	182	0	0	0	1,602	7	1	(s)	803	(s)	49	2,645	85
Netherlands Antilles	0	(s)	0	0	1	413	(s)	(s)	(s)	0	0	(s)	415	13
New Zealand	0	(s)	0	0	0	0	4	5	(s)	(s)	0	3	12	(s)
Nicaragua	0	0	0	0	0	0	0	2	0	0	0	(s)	2	(s)
Nigeria	0	0	0	0	0	0	0	1	(s)	0	0	0	1	(s)
Norway	0	1	0	0	0	0	0	(s)	(s)	195	0	0	197	6
Pacific Trust Terr.	0	(s)	0	0	0	0	0	2	(s)	0	0	(s)	(s)	(s)
Panama	0	0	0	0	0	0	(s)	3	(s)	0	0	(s)	2	(s)
Peru	0	0	0	0	0	0	0	8	(s)	0	0	(s)	4	(s)
Philippines	0	1	0	0	0	0	(s)	0	(s)	0	0	2	10	(s)

See footnotes at end of table.

Table 23. Exports of Crude Oil and Petroleum Products by Destination, July 1982
(continued)

Destination	Crude Oil 1	LPG and Ethane	Finished Motor Gasoline	Jet Fuel	Dist. Fuel Oil	Residual Fuel Oil	Special Naphthas	Lubri-cants	Wax	Petro-leum Coke	Asphalt	Other	Total	Total (Daily Average)
Puerto Rico	2,045	6	0	0	0	627	1	9	1	20	(s)	8	2,717	88
Rep. of South Africa	0	(s)	0	0	0	0	(s)	22	3	0	(s)	3	29	1
Saudi Arabia	0	4	0	0	0	5	0	23	(s)	2	(s)	3	38	1
Singapore	0	1	0	0	0	1,353	(s)	6	(s)	0	(s)	4	1,363	44
Spain	0	1	0	0	0	786	0	10	(s)	429	0	1	1,227	40
Surinam	0	0	0	0	0	0	0	(s)	0	0	0	(s)	(s)	(s)
Sweden	0	12	0	0	0	144	0	7	(s)	0	0	1	164	5
Switzerland	0	(s)	0	0	0	(s)	0	1	0	0	0	1	2	(s)
Thailand	0	(s)	0	0	0	0	0	2	(s)	20	(s)	100	122	4
Trinidad and Tobago	0	(s)	0	0	0	0	0	4	0	0	0	(s)	4	(s)
Turkey	0	0	0	0	0	0	(s)	4	(s)	0	0	0	4	(s)
United Arab Emirates	0	2	0	0	0	0	0	1	0	0	0	(s)	3	(s)
United Kingdom	0	2	0	0	1	0	4	11	(s)	91	(s)	1	111	4
U.S.S.R.	0	0	0	0	0	(s)	0	40	0	0	0	0	40	1
Uruguay	0	(s)	0	0	0	0	0	1	0	0	0	(s)	1	(s)
Venezuela	0	0	0	0	0	0	1	1	(s)	(s)	(s)	2	5	(s)
Virgin Islands	3,830	17	0	0	0	0	0	0	0	14	0	2	3,864	125
West Germany	0	1	0	0	0	0	(s)	6	22	108	0	93	230	7
Yugoslavia	0	0	0	0	0	0	0	(s)	0	0	0	0	(s)	(s)
Other	281	9	0	0	0	0	(s)	12	(s)	0	1	2	305	10
Total	7,105	1,154	758	32	738	7,406	56	528	37	4,477	51	629	22,972	741

1 Exports of crude oil are prohibited under normal circumstances. Some crude oil is shipped to Canada in exchange, on a barrel-for-barrel basis. Shipments of crude oil to Puerto Rico and the Virgin Islands are not prohibited because these territories are U.S. possessions.

(s) Less than 500 barrels or less than 500 barrels per day.

Note: Total may not equal sum of components due to independent rounding.

Sources: See Explanatory Notes on Data Collection and Estimation.

Table 24. Stocks of Crude Oil and Petroleum Products by PAD District, July 31, 1982
(Thousands of Barrels)

Commodity	PAD District I			PAD District II					PAD District III				PAD District IV		United States		
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., Ky.	Minn., Wisc., Dak.	Okl., Kans., Mo.	Total	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No. La., Ark.	New Mexico	Total		Rocky Mt.	Dist. V West Coast
Crude Oil (incl. lease condensate) ¹																	
Refinery	—	—	14,641	—	—	—	—	15,023	—	—	—	—	—	45,691	2,301	23,988	101,644
Tank Farms and Pipelines	—	—	2,917	—	—	—	—	57,527	—	—	—	—	—	93,064	9,929	30,090	193,527
Leases	—	—	67	—	—	—	—	1,578	—	—	—	—	—	17,944	1,488	1,649	22,726
Strategic Petroleum Reserve ²	—	—	0	—	—	—	—	0	—	—	—	—	—	267,154	0	0	267,154
Alaskan In-Transit	—	—	0	—	—	—	—	0	—	—	—	—	—	0	0	26,669	26,669
Total	—	—	17,625	—	—	—	—	74,128	—	—	—	—	—	423,853	13,718	82,396	611,720
Petroleum Products																	
Refinery	42,482	3,568	46,030	1,129	45,307	6,315	22,141	74,892	9,760	79,808	49,093	4,951	1,766	145,378	12,854	65,632	344,786
Bulk Terminal	113,709	6,921	120,630	3,837	37,264	8,285	12,223	61,609	4,509	33,351	8,686	4,429	343	53,318	2,255	20,597	258,409
Pipeline	24,332	2,140	26,472	1,416	11,890	3,595	17,184	34,085	8,100	9,635	7,110	13,500	1,116	39,461	2,622	4,024	106,664
Natural Gas Processing Plant	423	640	1,064	0	2,675	260	19,496	22,431	4,728	27,304	10,922	3,922	1,094	47,971	240	623	72,328
Total	180,926	13,269	194,196	6,382	97,136	18,455	71,044	193,017	27,097	152,098	75,811	26,802	4,319	286,128	17,971	90,876	782,187
Natural Gasoline and Isopentane																	
Refinery	3	0	3	0	29	2	82	113	135	450	183	2	21	791	1	32	940
Pipeline	0	0	0	0	40	62	330	432	282	52	0	17	62	413	170	43	1,058
Natural Gas Processing Plant	3	16	19	0	20	20	850	891	356	3,797	455	31	95	4,733	45	25	5,713
Total	6	16	22	0	89	84	1,262	1,436	773	4,299	638	50	178	5,937	216	100	7,711
Unfractionated Stream																	
Pipeline	0	0	0	0	78	0	9	87	0	28	28	0	0	56	0	0	143
Natural Gas Processing Plant	0	0	0	0	94	1	1,619	1,715	214	3,069	35	32	333	3,683	34	2	5,433
Total	0	0	0	0	172	1	1,628	1,802	214	3,097	63	32	333	3,739	34	2	5,576
Plant Condensate																	
Refinery	0	0	0	0	5	0	0	5	6	172	0	92	0	270	0	0	275
Pipeline	0	0	0	0	0	0	0	0	790	318	49	4	17	1,178	0	0	1,178
Natural Gas Processing Plant	0	0	0	0	8	0	4	12	47	20	13	7	1	87	3	0	103
Total	0	0	0	0	13	0	4	17	843	510	62	103	18	1,535	3	0	1,556
Ethane																	
Refinery	0	0	0	0	9	0	0	9	0	365	0	0	0	365	0	1	375
Bulk Terminal	0	0	0	0	69	0	51	120	0	1,121	0	0	0	1,121	0	0	1,241
Pipeline	0	0	0	0	55	945	198	1,198	216	75	112	0	3	406	0	0	1,604
Natural Gas Processing Plant	0	0	0	0	22	0	338	360	23	1,551	142	1	0	1,717	(9)	0	2,077
Total	0	0	0	0	155	945	587	1,687	239	3,112	254	1	3	3,609	(8)	1	5,297
Propane for Petrochemical Feedstock Use																	
Refinery	71	0	71	0	95	0	0	95	0	7	450	0	0	457	0	0	623
Total	71	0	71	0	95	0	0	95	0	7	450	0	0	457	0	0	623
Propane for Other Uses																	
Refinery	517	5	522	2	1,059	29	247	1,337	182	403	717	4	4	1,310	155	150	3,474
Bulk Terminal	502	0	502	0	955	69	594	1,618	227	14,260	89	20	0	14,596	16	0	16,732
Pipeline	738	860	1,598	59	1,202	172	1,551	2,984	665	558	239	276	157	1,895	120	0	6,597
Natural Gas Processing Plant	365	616	981	0	2,384	223	13,602	16,209	2,429	6,020	6,235	3,614	246	18,544	122	245	36,101
Total	2,122	1,481	3,603	61	5,600	493	15,994	22,148	3,503	21,241	7,280	3,914	407	36,345	413	395	62,904

See footnotes at end of table.

Table 24. Stocks of Crude Oil and Petroleum Products by PAD District, July 31, 1982
(Thousands of Barrels) (continued)

(Thousands of Barrels) (Continued)																		
Commodity	PAD District I			PAD District II				PAD District III					PAD District IV			United States		
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., Ky.	Minn., Wisc., Dak.	Okla., Kans., Mo.	Total	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No. La., Ark.	New Mexico	Total	Rocky Mt.		West Coast	
Butane for Petro. Feed. Use																		
Refinery	2	0	2	0	0	19	0	19	0	43	0	1	0	44	0	3	68	
Total	2	0	2	0	0	19	0	19	0	43	0	1	0	44	0	3	68	
Butane for Other Uses																		
Refinery	176	0	176	164	453	63	386	1,066	161	606	813	2	2	1,584	148	570	3,544	
Bulk Terminal	309	0	309	0	302	0	87	389	161	4,825	0	0	0	4,786	0	0	5,484	
Pipeline	20	157	177	0	907	0	191	1,098	1,007	73	5	2	87	1,174	112	0	2,561	
Natural Gas Processing Plant	39	4	42	0	97	12	1,927	2,036	1,007	4,295	2,589	156	117	8,165	33	339	10,615	
Total	544	161	704	164	1,759	75	2,591	4,589	2,336	9,599	3,407	160	206	15,709	293	909	22,204	
Butane-Propane Mixtures for Petro. Feed. Use																		
Refinery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Butane-Propane Mixtures for Other Uses																		
Refinery	0	0	0	0	0	0	0	0	0	9	9	0	19	37	2	192	231	
Bulk Terminal	0	0	0	0	58	0	0	58	0	0	0	0	0	0	0	0	58	
Pipeline	0	0	0	0	0	0	19	19	631	26	10	0	1	668	0	0	687	
Natural Gas Processing Plant	0	0	0	0	(s)	0	56	56	10	5	0	1	0	16	(s)	3	76	
Total	0	0	0	0	58	0	75	133	641	40	19	1	20	721	2	195	1,052	
Ethane-Propane Mixtures																		
Bulk Terminal	0	0	0	0	0	0	4	4	224	2,188	0	0	0	2,412	0	0	2,416	
Pipeline	0	0	0	0	66	0	601	667	745	125	2	0	106	978	115	0	1,760	
Natural Gas Processing Plant	0	0	0	0	0	0	670	670	229	5,863	0	0	246	6,338	0	0	7,008	
Total	0	0	0	0	66	0	1,275	1,341	1,198	8,176	2	0	352	9,728	115	0	11,184	
Isobutane																		
Refinery	0	3	3	80	135	32	218	465	67	246	664	10	5	992	34	19	1,513	
Bulk Terminal	0	0	0	0	62	0	10	72	110	1,658	0	0	0	1,768	0	0	1,840	
Pipeline	0	0	0	0	326	0	92	418	175	126	0	0	58	359	44	0	821	
Natural Gas Processing Plant	2	4	6	0	47	3	428	478	153	1,389	1,452	51	54	3,100	1	9	3,593	
Total	2	7	9	80	570	35	748	1,433	505	3,419	2,116	61	117	6,219	79	28	7,767	
Other Hydrocarbons and Alcohol																		
Refinery	0	23	23	0	105	0	0	105	1	70	22	0	0	93	0	10	231	
Total	0	23	23	0	105	0	0	105	1	70	22	0	0	93	0	10	231	
Unfinished Oils																		
Refinery	3,544	294	3,838	38	3,257	65	1,881	5,041	1,066	7,468	4,834	203	200	13,771	440	4,611	27,701	
Naphtha and Lighter	2,856	7	2,863	0	3,361	40	958	4,359	374	8,541	4,146	30	16	13,107	347	4,164	24,842	
Kerosene and Lighter Gas Oils	7,210	429	7,639	94	3,902	227	2,494	6,717	1,162	11,359	4,482	384	90	17,477	1,585	10,814	44,232	
Heavy Gas Oils	3,198	311	3,509	2	4,004	137	1,918	6,061	295	3,214	2,085	24	7	5,825	547	5,273	21,015	
Residuum	16,810	1,041	17,851	134	14,524	469	7,051	22,178	2,897	30,582	15,547	641	313	49,980	2,919	24,862	117,790	
Total																		

See footnotes at end of table.

Table 24. Stocks of Crude Oil and Petroleum Products by PAD District, July 31, 1982
(Thousands of Barrels) (continued)

Commodity	PAD District I			PAD District II					PAD District III			PAD District IV		United States			
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., Ky.	Minn., Wisc., Daks.	Okl., Kans., Mo.	Total	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No. La., Ark.	New Mexico		Total	Rocky Mts.	PAD Dist. V West Coast
Motor Gasoline Blending Components																	
Refinery	4,595	81	4,676	52	5,875	563	2,149	8,639	1,454	8,710	7,837	138	276	18,425	1,560	8,143	41,443
Bulk Terminal	271	1	272	6	224	2	83	315	157	44	1	1	0	203	0	478	1,268
Pipeline	0	0	0	0	67	2	238	307	65	0	0	0	0	65	0	0	372
Total	4,866	82	4,948	58	6,166	567	2,470	9,261	1,686	8,754	7,838	139	276	18,693	1,560	8,621	43,083
Aviation Gasoline Blending Components																	
Refinery	0	0	0	0	99	0	1	100	32	87	123	0	0	242	0	88	430
Total	0	0	0	0	99	0	1	100	32	87	123	0	0	242	0	88	430
Total Finished Motor Gasoline																	
Refinery	4,306	268	4,574	91	5,972	997	3,515	10,575	1,652	9,201	5,521	645	245	17,264	1,944	8,233	42,590
Bulk Terminal	35,781	3,100	38,881	1,802	17,365	3,396	4,915	27,478	2,104	4,815	1,700	2,717	163	11,499	1,107	9,486	88,451
Pipeline	13,915	830	14,745	605	6,130	1,232	7,323	15,290	2,200	5,337	3,693	7,198	159	18,587	1,231	2,036	51,809
Natural Gas Processing Plant	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Total Finished Motor Gasoline	54,017	4,198	58,215	2,498	29,467	5,625	15,753	53,343	5,956	19,353	10,914	10,560	567	47,350	4,282	19,755	182,945
Finished Leaded Motor Gasoline																	
Refinery	2,076	146	2,222	45	2,904	664	2,028	5,641	794	4,037	2,769	442	156	8,198	1,208	3,843	21,112
Bulk Terminal	18,286	1,459	19,745	953	8,711	1,863	2,962	14,489	1,055	2,847	819	1,522	98	6,341	690	5,059	46,324
Pipeline	6,591	294	6,885	442	3,439	737	4,153	8,771	762	2,597	1,728	2,950	82	8,119	829	1,090	25,694
Natural Gas Processing Plant	15	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15
Total	26,968	1,899	28,867	1,440	15,054	3,264	9,143	28,901	2,611	9,481	5,316	4,914	336	22,658	2,727	9,992	93,145
Finished Unleaded Motor Gasoline																	
Refinery	2,230	122	2,352	46	3,068	333	1,487	4,934	858	5,164	2,752	203	89	9,066	734	4,385	21,471
Bulk Terminal	17,488	1,641	19,129	849	8,633	1,533	1,949	12,964	1,049	1,968	881	1,195	65	5,158	417	4,427	42,095
Pipeline	7,324	536	7,860	163	2,691	495	3,170	6,519	1,438	2,740	1,965	4,248	77	10,468	402	946	26,195
Total	27,042	2,299	29,341	1,058	14,392	2,361	6,606	24,417	3,345	9,872	5,598	5,646	231	24,692	1,553	9,758	89,761
Gasohol																	
Refinery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	7
Bulk Terminal	7	0	7	0	21	0	4	25	0	0	0	0	0	0	0	0	32
Total	7	0	7	0	21	0	4	25	0	0	0	0	0	0	2	5	39
Finished Aviation Gasoline																	
Refinery	22	0	22	0	123	0	82	205	13	418	79	0	0	510	18	221	976
Bulk Terminal	368	36	404	13	192	32	86	323	59	20	9	28	41	157	14	337	1,235
Pipeline	0	0	0	0	0	0	63	63	4	1	1	0	0	6	0	0	69
Natural Gas Processing Plant	0	0	0	0	0	0	0	0	101	0	0	0	0	101	0	0	101
Total	390	36	426	13	315	32	231	591	177	439	89	28	41	774	32	558	2,381
Naphtha-Type Jet Fuel																	
Refinery	204	35	239	0	332	35	361	728	222	958	558	119	234	2,091	188	906	4,152
Bulk Terminal	11	9	20	6	113	14	150	283	160	5	0	47	0	212	18	95	628
Pipeline	271	0	271	6	1	57	110	174	154	0	16	188	284	642	132	417	1,636
Total	486	44	530	12	446	106	621	1,185	536	963	574	354	518	2,945	338	1,418	6,416

See footnotes at end of table.

See footnotes at end of table.

Table 24. Stocks of Crude Oil and Petroleum Products by PAD District, July 31, 1962

(Thousands of Barrels) (continued)

(Thousands of Barrels) (continued)																	
Commodity	PAD District I			PAD District II					PAD District III					PAD District IV		United States	
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., Ky.	Minn., Wisc., Dak.	Okla., Kans., Mo.	Total	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No. La., Ark.	New Mexico	Total	Rocky Mts.		Dist. V West Coast
Kerosene-Type Jet Fuel																	
Refinery	1,117	0	1,117	41	1,510	102	142	1,795	292	2,709	2,434	15	41	5,491	334	3,667	12,404
Bulk Terminal	4,220	125	4,345	55	2,627	301	545	3,528	165	1,194	98	48	25	1,530	246	1,785	11,434
Pipeline	2,458	62	2,520	115	753	171	1,378	2,417	562	921	624	1,724	12	3,843	159	638	9,577
Total	7,795	187	7,982	211	4,890	574	2,065	7,740	1,019	4,824	3,156	1,787	78	10,864	739	6,090	33,415
Kerosene																	
Refinery	101	46	147	0	741	27	315	1,083	48	819	561	12	54	1,494	17	143	2,884
Bulk Terminal	2,956	363	3,319	216	967	75	19	1,277	8	442	82	18	0	550	24	45	5,215
Pipeline	362	17	379	60	54	0	28	142	2	85	231	144	0	462	0	1	984
Natural Gas Processing Plant	0	0	0	0	0	0	0	0	3	0	0	(9)	1	4	0	0	4
Total	3,419	426	3,845	276	1,762	102	362	2,502	61	1,346	874	174	55	2,510	41	189	9,087
Total Distillate Fuel Oils																	
Refinery	6,092	455	6,547	56	7,129	1,605	4,257	13,047	1,147	9,540	5,773	1,242	353	18,055	2,021	4,609	44,279
Bulk Terminal	41,873	2,224	44,097	1,281	11,388	3,609	4,495	20,773	1,097	3,183	1,855	1,175	111	7,421	829	5,142	78,262
Pipeline	6,563	188	6,751	545	2,202	954	5,053	8,754	564	1,907	2,100	3,947	170	8,688	539	875	25,607
Natural Gas Processing Plant	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	2
Total	54,528	2,867	57,395	1,882	20,719	6,168	13,806	42,575	2,809	14,630	9,728	6,364	634	34,165	3,389	10,626	148,150
Dist. Fuel Oils Less No. 4 Fuel Oil																	
Refinery	6,092	451	6,543	56	7,101	1,605	4,257	13,019	1,091	9,223	5,636	1,138	278	17,366	2,018	4,545	43,491
Bulk Terminal	40,730	2,222	42,952	1,271	11,223	3,581	4,495	20,570	1,097	3,183	1,757	1,174	111	7,322	829	5,103	76,776
Pipeline	6,563	188	6,751	545	2,202	954	5,053	8,754	564	1,907	2,100	3,947	170	8,688	539	875	25,607
Natural Gas Processing Plant	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0	0	2
Total	53,385	2,861	56,246	1,872	20,526	6,140	13,806	42,344	2,753	14,313	9,493	6,259	559	33,377	3,386	10,523	145,876
No. 4 Fuel Oil																	
Refinery	0	4	4	0	28	0	0	28	56	317	137	104	75	689	3	64	788
Bulk Terminal	1,143	2	1,145	10	165	28	0	203	0	0	0	98	1	0	98	0	1,486
Total	1,143	6	1,149	10	193	28	0	231	56	317	235	105	75	788	3	103	2,274
Residual Fuel Oils																	
Refinery	3,358	108	3,466	109	2,548	503	495	3,655	375	5,127	4,140	346	60	10,048	485	7,264	24,918
Bulk Terminal	23,307	305	23,612	216	899	155	787	2,057	29	1,774	4,472	75	0	6,350	0	2,011	34,030
Pipeline	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	14	15
Total	26,665	413	27,078	325	3,447	658	1,282	5,712	404	6,902	8,612	421	60	16,399	485	9,289	58,963
Naphtha < 400 Deg. Petro. Feedstock																	
Refinery	118	0	118	0	83	0	59	142	132	1,044	270	7	7	1,453	0	295	2,008
Total	118	0	118	0	83	0	59	142	132	1,044	270	7	7	1,453	0	295	2,008
Other Oils > 400 Deg. Petro. Feedstock																	
Refinery	8	122	130	0	185	0	1	186	176	1,213	268	16	16	1,673	0	87	2,076
Total	8	122	130	0	185	0	1	186	176	1,213	268	16	16	1,673	0	87	2,076
Special Naphthas																	
Refinery	11	47	58	0	204	0	183	387	40	1,263	71	181	0	1,555	7	299	2,306
Bulk Terminal	833	20	853	46	159	11	0	216	0	0	0	84	0	84	0	40	1,193
Natural Gas Processing Plant	0	0	0	0	0	0	0	0	107	0	0	0	0	107	0	0	107
Total	844	67	911	46	363	11	183	603	147	1,263	71	265	0	1,746	7	339	3,606

See footnotes at end of table.

Table 24. Stocks of Crude Oil and Petroleum Products by PAD District, July 31, 1982
(Thousands of Barrels) (continued)

Commodity	PAD District I			PAD District II					PAD District III				PAD District IV		United States		
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill.	Ky.	Minn., Wisc., Daks.	Okla., Kans., Mo.	Total	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No La., Ark.	New Mexico		Total	Rocky Mt.
Lubricants																	
Refinery																	
Bright Stock	147	375	522	0	56	0	0	65	121	0	245	90	0	0	335	5	44
Neutral	683	393	1,076	0	600	0	0	496	1,096	0	1,773	1,092	70	0	2,935	70	598
Other	627	178	805	0	150	0	0	158	308	27	2,271	251	161	0	2,710	8	104
Bulk Terminals	915	224	1,139	13	471	19	0	90	593	8	22	228	71	3	332	1	716
Total	2,372	1,170	3,542	13	1,277	19	0	809	2,118	35	4,311	1,661	302	3	6,312	84	1,462
																	13,518
Wax, Microcrystalline																	
Refinery	0	46	46	0	0	0	0	22	22	25	26	9	1	0	61	0	129
Total	0	46	46	0	0	0	0	22	22	25	26	9	1	0	61	0	129
Wax, Crystalline—Fully Refined																	
Refinery	11	29	40	0	34	0	0	24	58	0	57	168	0	0	225	5	31
Total	11	29	40	0	34	0	0	24	58	0	57	168	0	0	225	5	31
																	359
Wax, Crystalline—Other																	
Refinery	4	66	70	0	2	0	0	6	8	0	176	0	0	0	176	0	270
Total	4	66	70	0	2	0	0	6	8	0	176	0	0	0	176	0	270
Petroleum Coke																	
Refinery	930	0	930	0	436	213	0	451	1,100	0	177	380	191	0	748	492	5,854
Total	930	0	930	0	436	213	0	451	1,100	0	177	380	191	0	748	492	5,854
Asphalt																	
Refinery	2,122	207	2,329	399	2,674	1,637	0	1,357	6,067	619	558	905	994	138	3,214	2,438	16,134
Bulk Terminal	2,239	514	2,753	183	1,394	599	0	304	2,480	0	0	139	120	0	259	0	5,934
Total	4,361	721	5,082	582	4,068	2,236	0	1,661	8,547	619	558	1,044	1,114	138	3,473	2,438	22,068
Road Oil																	
Refinery	0	0	0	0	42	0	0	4	46	0	0	0	2	0	2	3	84
Total	0	0	0	0	42	0	0	4	46	0	0	0	2	0	2	3	84
Miscellaneous Products																	
Refinery	427	40	467	1	98	19	0	14	132	47	483	158	59	1	748	0	1,689
Bulk Terminal	124	0	124	0	19	3	0	3	25	0	0	13	25	0	38	0	207
Pipeline	5	26	31	26	9	0	0	0	35	38	2	0	0	0	40	0	106
Natural Gas Processing Plant	0	0	0	0	3	0	0	(s)	3	49	1,296	1	29	(s)	1,376	2	0
Total	556	66	622	27	129	22	0	17	195	134	1,781	172	113	1	2,202	2	3,362
Total Stocks, All Oils	—	—	211,821	—	—	—	—	—	267,145	—	—	—	—	—	709,981	31,689	1,393,907

¹ Crude oil data are not collected by refinery district.

² Includes 33804 thousands of barrels of domestic crude oil.

(s) Less than 500 barrels.

Note: Total may not equal sum of components due to independent rounding.

Sources: See Explanatory Notes on Data Collection and Estimation.

— Not Applicable.

Table 25. Movements of Crude Oil and Petroleum Products by Pipeline, Tanker, and Barge Between PAD Districts, July 1982
(Thousands of Barrels)

Commodity	From I to			From II to			From III to			From IV to			From V to		
	II	III	V	I	III	IV	I	II	IV	V	II	III	V	I	III
Crude Oil	34	0	0	0	0	0	422	1,806	0	0	0	0	0	2,197	14,564
Petroleum Products	8,808	666	83	2,701	5,349	2,346	84,918	25,792	0	3,381	1,223	0	1,139	20	40
Natural Gasoline and Isopentane	0	0	0	0	324	0	0	1,181	0	0	324	0	0	0	0
Unfractionated Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plant Condensate	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Liquefied Petroleum Gases	0	24	0	833	1,548	60	1,779	4,197	0	0	0	0	0	0	0
Unfinished Oils	8	0	0	0	0	0	287	261	0	190	0	0	0	0	0
Motor Gasoline Blending Components	0	0	0	0	0	0	0	658	0	0	0	0	0	0	0
Aviation Gasoline Blending Components	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finished Motor Gasoline	6,061	429	83	972	1,884	1,396	50,878	11,905	0	1,357	514	0	704	0	0
Finished Leaded Motor Gasoline	3,449	36	0	441	1,223	814	22,899	6,026	0	591	359	0	289	0	0
Finished Unleaded Motor Gasoline	2,612	393	83	531	641	582	27,979	5,879	0	776	155	0	415	0	0
Gasohol	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finished Aviation Gasoline	0	0	0	0	0	25	185	199	0	0	0	0	0	0	0
Naphtha-Type Jet Fuel	121	0	0	0	61	0	663	2	0	172	10	0	92	0	0
Kerosene-Type Jet Fuel	123	0	0	106	97	644	6,474	1,478	0	261	4	0	55	0	0
Kerosene	81	0	0	0	0	0	338	135	0	0	0	0	0	0	0
Distillate Fuel Oil	2,330	0	0	206	656	221	19,781	4,394	0	413	371	0	288	0	0
Distillate Fuel Oil Less No. 4	2,330	0	0	206	656	221	19,733	4,394	0	413	371	0	288	0	0
No. 4 Fuel Oil	0	0	0	0	0	0	48	0	0	0	0	0	0	0	0
Residual Fuel Oil	0	36	0	254	715	0	3,090	259	0	924	0	0	0	20	40
Naphtha and Other Oils for Petro.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feedstock	67	153	0	28	63	0	82	33	0	0	0	0	0	0	0
Special Naphthas	0	0	0	15	0	0	303	164	0	0	0	0	0	0	0
Lubricants	17	20	0	53	21	0	397	348	0	44	0	0	0	0	0
Wax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asphalt and Road Oil	0	0	0	161	0	0	483	438	0	0	0	0	0	0	0
Miscellaneous Products	0	4	0	73	0	0	178	138	0	0	0	0	0	0	0
Total All Products	8,842	666	83	2,701	5,349	2,346	85,340	27,598	0	3,381	1,223	0	1,139	2,217	14,604

Note: Total may not equal sum of components due to independent rounding.
Sources: See Explanatory Notes on Data Collection and Estimation.

TABLE 26. Movements of Petroleum Products by Pipeline Between PAD Districts, July 1982
(Thousands of Barrels)

Commodity	From I to		From II to				From III to					From IV to				
	II	I	I	III	IV	I	II	III	IV	V	II	III	IV	V		
Natural Gasoline and Isopentane	0	0	0	324	0	0	1,181	0	0	0	324	0	0	0		
Unfractionated Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Plant Condensate	0	0	0	0	0	0	2	0	0	0	0	0	0	0		
Liquefied Petroleum Gases	0	833	1,548	60	1,614	4,197	0	0	0	0	0	0	0	0		
Motor Gasoline Blending Components	0	0	0	0	0	658	0	0	0	0	0	0	0	0		
Aviation Gasoline Blending Components	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Finished Motor Gasoline	4,787	781	1,864	1,396	41,214	10,779	0	0	0	0	0	0	0	0		
Finished Leaded Motor Gasoline	2,692	317	1,223	814	18,574	5,529	0	864	514	0	704	0	0	0		
Finished Unleaded Motor Gasoline	2,095	464	641	582	22,640	5,250	0	438	359	0	289	0	0	0		
Gasohol	0	0	0	0	0	0	0	426	155	0	415	0	0	0		
Finished Aviation Gasoline	0	0	0	25	28	139	0	0	0	0	0	0	0	0		
Naphtha-Type Jet Fuel	0	0	61	0	273	2	0	172	10	0	92	0	0	0		
Kerosene-Type Jet Fuel	116	83	97	644	4,353	1,237	0	207	4	0	55	0	0	0		
Kerosene	11	0	0	0	269	135	0	0	0	0	0	0	0	0		
Distillate Fuel Oil	1,553	169	656	221	15,253	4,036	0	413	371	0	288	0	0	0		
Distillate Fuel Oil Less No. 4	1,553	169	656	221	15,253	4,036	0	413	371	0	288	0	0	0		
No. 4 Fuel Oil	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Residual Fuel Oil	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Miscellaneous Products	0	73	0	0	0	0	0	0	0	0	0	0	0	0		
Total	6,467	1,939	4,550	2,346	63,004	22,447	0	1,656	1,223	0	1,139	0	0	0		

Note: Total may not equal sum of components due to independent rounding.

Note: Total may not equal sum of components due to independent rounding.

Source: See Explanatory Notes on Data Collection and Estimation.

Table 27. Movements of Crude Oil and Petroleum Products by Tanker and Barge Between PAD Districts, July 1982
(Thousands of Barrels)

Commodity	From I to			From II to			From III to					From V to		
	II	III	V	I	III	I	New Eng	Cent Atl	Low Atl	II	V	I	III	
Crude Oil	34	0	0	0	0	0	422	0	422	0	1,806	0	2,197	14,564
Petroleum Products	2,341	666	83	762	799	21,914	1,107	3,266	17,541	3,345	1,725	20	40	
Liquefied Petroleum Gases	0	24	0	0	0	165	0	0	165	0	0	0	0	
Unfinished Oils	8	0	0	0	0	287	0	263	24	261	190	0	0	
Finished Motor Gasoline	1,274	429	83	191	0	9,664	251	55	9,358	1,126	493	0	0	
Finished Aviation Gasoline	0	0	0	0	0	157	37	44	76	60	0	0	0	
Naphtha-Type Jet Fuel	121	0	0	0	0	390	0	0	390	0	0	0	0	
Kerosene-Type Jet Fuel	7	0	0	23	0	2,121	474	281	1,366	241	74	0	0	
Kerosene	777	0	0	0	0	69	0	69	0	0	0	0	0	
Distillate Fuel Oil	0	0	0	37	0	4,528	285	1,070	3,173	358	0	0	0	
Residual Fuel Oil	0	36	0	254	715	3,090	60	582	2,448	259	924	20	40	
Naphtha and Other Oils for Petro. Feed. Use	67	153	0	28	63	82	0	82	0	33	0	0	0	
Special Naphthas	0	0	0	15	0	303	0	121	182	164	0	0	0	
Lubricants	17	20	0	53	21	397	0	330	67	348	44	0	0	
Wax	0	0	0	0	0	0	0	0	0	0	0	0	0	
Asphalt and Road Oil	0	0	0	161	0	483	0	249	234	438	0	0	0	
Miscellaneous Products	0	4	0	0	0	178	0	120	58	57	0	0	0	
Total	2,375	666	83	762	799	22,336	1,107	3,688	17,541	5,151	1,725	2,217	14,604	

Note: Total may not equal sum of components due to independent rounding

Note: Total may not equal sum of components due to independent rounding.

Source: See Explanatory Notes on Data Collection and Estimation.

Table 28. Net Movements of Crude Oil and Petroleum Products by Pipeline, Tanker and Barge Between PAD Districts, July 1982
(Thousands of Barrels)

Commodity	P.A.D. District I			P.A.D. District II			P.A.D. District III			P.A.D. District IV			P.A.D. District V		
	Receipts into PADD I	Shipments from PADD I	Net Receipts PADD I	Receipts into PADD II	Shipments from PADD II	Net Receipts PADD II	Receipts into PADD III	Shipments from PADD III	Net Receipts PADD III	Receipts into PADD IV	Shipments from PADD IV	Net Receipts PADD IV	Receipts into PADD V	Shipments from PADD V	Net Receipts PADD V
Crude Oil	2,619	34	2,585	1,840	0	1,840	14,564	2,228	12,336	0	0	0	0	16,761	-16,761
Petroleum Products	87,639	9,557	78,082	35,823	10,396	25,427	6,055	114,091	-108,036	2,346	2,362	-16	4,603	60	4,543
Natural Gasoline	0	0	0	1,505	324	1,181	324	1,181	-857	0	324	-324	0	0	0
Unfractionated Stream	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plant Condensate	0	0	0	2	0	2	0	2	-2	0	0	0	0	0	0
Liquefied Petroleum Gases	2,612	24	2,588	4,197	2,441	1,756	1,572	5,976	-4,404	60	0	60	0	0	0
Unfinished Oils	287	8	279	269	0	269	0	738	-738	0	0	0	190	0	190
Motor Gasoline Blending Components	0	0	0	658	0	658	0	658	-658	0	0	0	0	0	0
Aviation Gasoline Blending Components	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finished Motor Gasoline	51,850	6,573	45,277	18,480	4,232	14,248	2,293	64,140	-61,847	1,396	1,218	178	2,144	0	2,144
Finished Leaded Motor Gasoline	23,340	3,485	19,855	9,834	2,478	7,356	1,259	29,506	-28,247	814	648	166	870	0	870
Finished Unleaded Motor Gasoline	28,510	3,088	25,422	8,646	1,754	6,892	1,034	34,634	-33,600	582	570	12	1,274	0	1,274
Gasohol	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finished Aviation Gasoline	185	0	185	199	25	174	0	384	-384	25	0	25	0	0	0
Naphtha-Type Jet Fuel	663	121	542	133	61	72	61	837	-776	0	102	-102	264	0	264
Kerosene-Type Jet Fuel	6,580	123	6,457	1,605	847	758	97	8,233	-8,136	644	59	585	336	0	336
Kerosene	338	81	257	216	0	216	0	473	-473	0	0	0	0	0	0
Distillate Fuel Oil	19,987	2,330	17,657	7,095	1,083	6,012	656	24,588	-23,932	221	659	-438	701	0	701
Distillate Fuel Oil Less No. 4	19,939	2,330	17,609	7,095	1,083	6,012	656	24,540	-23,884	221	659	-438	701	0	701
No. 4 Fuel Oil	48	0	48	0	0	0	0	48	-48	0	0	0	0	0	0
Residual Fuel Oil	3,364	36	3,328	259	969	-710	791	4,273	-3,482	0	0	0	924	60	864
Naphtha and Other Oils for Petro.															
Feedstock Use	110	220	-110	100	91	9	216	115	101	0	0	0	0	0	0
Special Naphthas	318	0	318	164	15	149	0	467	-467	0	0	0	0	0	0
Lubricants	450	37	413	365	74	291	41	789	-748	0	0	0	44	0	44
Wax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Asphalt and Road Oil	644	0	644	438	161	277	0	921	-921	0	0	0	0	0	0
Miscellaneous Products	251	4	247	138	73	65	4	316	-312	0	0	0	0	0	0
Total All Products	90,258	9,591	80,667	37,663	10,396	27,267	20,619	116,319	-95,700	2,346	2,362	-16	4,603	16,821	-12,218

Note: Total may not equal sum of components due to independent rounding

Sources: See Explanatory Notes on Data Collection and Estimation

Table 29. Production of No.4 Fuel Oil and Residual Fuel Oil By Sulfur Content, July 1982
(Thousands of Barrels)

Commodity	PAD District I			PAD District II					PAD District III					PAD District IV		United States		
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., Ky.	Minn., Wisc., Daks.	Okla., Kans., Mo.	Total	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No. La., Ark.	New Mexico	Total	Rocky Mts.		Dist. V West Coast	
No. 4 Fuel Oil																		
0.00 to 0.30% Sulfur	0	4	4	0	20	0	0	0	20	12	182	-355	72	197	108	32	104	268
0.31 to 0.50% Sulfur	0	2	2	0	0	0	0	0	0	5	181	-14	2	0	174	0	0	176
0.51 to 1.00% Sulfur	0	0	0	0	0	0	0	0	0	14	0	0	0	0	14	32	0	46
1.01 to 2.00% Sulfur	0	0	0	0	6	0	0	6	-23	1	1	0	1	197	176	0	16	198
Greater Than 2.00% Sulfur	0	2	2	0	0	0	0	0	16	0	0	0	0	0	16	0	3	21
	0	0	0	0	14	0	0	14	0	0	-341	69	0	0	-272	0	85	-173
Residual Fuel Oil																		
0.00 to 0.30% Sulfur	3,726	213	3,939	74	2,249	462	614	3,399	669	7,004	7,150	500	122	15,445	312	8,812	31,907	
0.31 to 0.50% Sulfur	680	40	720	0	0	0	0	0	102	523	21	98	52	796	-8	265	1,773	
0.51 to 1.00% Sulfur	871	157	1,028	0	32	0	123	155	15	122	38	117	0	292	110	1,359	2,944	
1.01 to 2.00% Sulfur	1,652	0	1,652	74	1,229	0	273	1,576	434	2,095	1,699	199	8	4,435	66	1,234	8,963	
Greater Than 2.00% Sulfur	86	16	102	0	736	177	173	1,086	102	325	1,272	6	13	1,718	52	5,304	8,262	
	437	0	437	0	252	285	45	582	16	3,939	4,120	80	49	8,204	92	650	9,965	

Note: Total may not equal sum of components due to rounding.

Note: Total may not equal sum of components due to independent rounding.
Source: See Explanatory Notes on Data Collection and Estimation

Table 30. Stocks of No.4 Fuel Oil and Residual Fuel Oil By Sulfur Content, July 1982
(Thousands of Barrels)

Commodity	PAD District I			PAD District II					PAD District III					PAD			United States	
	East Coast	Appalachian #1	Total	Appalachian #2	Ind., Ill., Ky.	Minn., Wisc., Daks.	Okla., Kans., Mo.	Total	Texas Inland	Texas Gulf Coast	La. Gulf Coast	No. La., Ark.	New Mexico	Total	Dist. IV Rocky Mt.	Dist. V West Coast		
No. 4 Fuel Oil -- 0.00 to 0.30% Sulfur																		
Refinery	0	4	4	0	2	0	0	0	2	0	96	33	3	0	132	0	0	138
Bulk Terminal	394	0	394	0	0	0	0	0	0	0	0	0	1	0	1	0	0	395
Total	394	4	398	0	2	0	0	0	2	0	96	33	4	0	133	0	0	533
No.4 Fuel Oil -- 0.31 to 0.50% Sulfur																		
Refinery	0	0	0	0	2	0	0	0	2	18	0	0	0	0	18	3	12	35
Bulk Terminal	45	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	45	
Total	45	0	45	0	2	0	0	0	2	18	0	0	0	0	18	3	12	80
No. 4 Fuel Oil -- 0.51 to 1.00% Sulfur																		
Refinery	0	0	0	0	17	0	0	0	17	29	221	0	3	75	328	0	18	363
Bulk Terminal	304	0	304	0	164	28	0	0	192	0	0	98	0	0	98	0	0	594
Total	304	0	304	0	181	28	0	0	209	29	221	98	3	75	426	0	18	957
No. 4 Fuel Oil -- 1.01 to 2.00% Sulfur																		
Refinery	0	0	0	0	0	0	0	0	0	9	0	25	0	0	34	0	2	36
Bulk Terminal	334	0	334	0	0	0	0	0	0	0	0	0	0	0	0	0	39	373
Total	334	0	334	0	0	0	0	0	0	9	0	25	0	0	34	0	41	409
No.4 Fuel Oil -- Greater Than 2.00% Sulfur																		
Refinery	0	0	0	0	7	0	0	0	7	0	0	79	98	0	177	0	32	216
Bulk Terminal	66	2	68	10	1	0	0	0	11	0	0	0	0	0	0	0	0	79
Total	66	2	68	10	8	0	0	0	18	0	0	79	98	0	177	0	32	295
Residual Fuel Oil -- 0.00 to 0.30% Sulfur																		
Refinery	306	30	336	0	0	0	0	0	0	88	174	27	23	13	325	115	723	1,499
Bulk Terminal	2,996	0	2,996	0	23	0	0	0	23	0	6	2,026	29	0	2,061	0	13	5,093
Total	3,302	30	3,332	0	23	0	0	0	23	88	180	2,053	52	13	2,386	115	736	6,592
Residual Fuel Oil -- 0.31 to 0.50% Sulfur																		
Refinery	557	29	586	0	113	3	8	124	3	53	24	109	0	189	29	1,274	2,202	
Bulk Terminal	1,260	0	1,260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,260
Total	1,817	29	1,846	0	113	3	8	124	3	53	24	109	0	189	29	1,274	3,462	
Residual Fuel Oil -- 0.51 to 1.00% Sulfur																		
Refinery	1,438	0	1,438	109	1,029	0	233	1,371	239	1,715	1,645	113	6	3,718	13	639	7,179	
Bulk Terminal	4,853	48	4,901	193	408	12	91	704	29	553	280	0	0	862	0	261	6,728	
Total	6,291	48	6,339	302	1,437	12	324	2,075	268	2,268	1,925	113	6	4,580	13	900	13,907	
Residual Fuel Oil -- 1.01 to 2.00% Sulfur																		
Refinery	872	49	921	0	840	307	220	1,367	32	589	578	10	1	1,210	84	4,132	7,714	
Bulk Terminal	3,751	229	3,980	23	355	84	506	968	0	139	664	0	0	803	0	1,378	7,129	
Total	4,623	278	4,901	23	1,195	391	726	2,335	32	728	1,242	10	1	2,013	84	5,510	14,843	
Residual Fuel Oil -- Greater than 2.00% Sulfur																		
Refinery	185	0	185	0	566	193	34	793	13	2,596	1,866	91	40	4,606	244	496	6,324	
Bulk Terminal	10,447	28	10,475	0	113	59	190	362	0	1,076	1,502	46	0	2,624	0	359	13,820	
Total	10,632	28	10,660	0	679	252	224	1,155	13	3,672	3,368	137	40	7,230	244	855	20,144	
Residual Fuel Oil -- Sulfur Content Not Specified																		
Pipeline	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	14	15	
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	14	15	

Note: Total may not equal sum of components due to independent rounding
Sources: See Explanatory Notes on Data Collection and Estimation.

Table 31. Imports of Residual Fuel Oil by Sulfur Content by Country of Origin, July 1982
(Thousands of Barrels)

Country	Residual Fuel Oil						Total
	0.00 to 0.30%	0.31 to 0.50%	0.51 to 1.00%	1.01 to 2.00%	Greater Than 2.00%	Not Specified	
Arab OPEC							
Algeria	1,034	0	0	0	0	0	1,034
Iraq	0	0	0	0	0	0	0
Kuwait	533	0	0	0	0	0	533
Qatar	0	0	0	0	0	0	0
Saudi Arabia	0	0	0	0	635	0	635
United Arab Emirates	0	0	0	0	0	0	0
Subtotal Arab OPEC	1,567	0	0	0	635	0	2,201
Other OPEC							
Ecuador	0	0	0	0	0	0	0
Gabon	0	0	0	0	0	0	0
Indonesia	0	151	0	28	0	0	178
Iran	0	0	0	0	0	0	0
Nigeria	0	0	0	0	0	0	0
Venezuela	1,471	225	199	418	2,498	0	4,811
Subtotal Other OPEC	1,471	375	199	446	2,498	0	4,989
Other							
Angola	0	0	0	0	0	0	0
Australia	0	0	0	0	0	0	0
Bahamas	105	0	0	0	628	0	734
Bolivia	0	0	0	0	0	0	0
Brazil	0	0	0	0	0	0	0
Brunei	0	0	0	0	0	0	0
Canada	(s)	0	469	70	2	0	541
Egypt	0	0	0	0	0	0	0
France	0	0	172	0	0	0	172
Ghana	399	0	0	0	0	0	399
Liberia	0	0	0	0	0	0	0
Malaysia	0	0	0	0	0	0	0
Mexico	0	0	0	0	472	0	472
Netherlands	0	0	0	0	0	0	0
Netherlands Antilles	0	0	100	37	2,953	0	3,089
Norway	0	0	0	0	0	0	0
People's Republic of China	0	0	0	70	0	0	70
Peru	0	0	262	0	0	0	262
Puerto Rico	0	0	0	0	0	0	0
Romania	0	0	0	0	0	0	0
Spain	0	0	0	0	0	0	0
Syria	0	0	0	0	0	0	0
Trinidad	0	0	0	0	0	0	0
Tunisia	0	0	0	0	0	0	0
United Kingdom	0	0	0	0	0	0	0
Virgin Islands	0	0	1,849	1,548	304	0	3,702
Yugoslavia	0	0	0	0	0	0	0
Zaire	0	0	0	0	0	0	0
Other Western Hemisphere	0	389	196	0	0	0	585
Other Eastern Hemisphere	2	28	367	65	164	0	626
Subtotal Other	507	417	3,416	1,789	4,524	0	10,652
Total Imports	3,544	792	3,614	2,235	7,657	0	17,843

(s) Less than 500 barrels.

Note: Total may not equal sum of components due to independent rounding.

Sources: See Explanatory Notes on Data Collection and Estimation.

Table 32. Imports of Residual Fuel Oil by Sulfur Content by State of Entry, July 1982
(Thousands of Barrels)

State	Residual Fuel Oil					
	0.00 to 0.30%	0.31 to 0.50%	0.51 to 1.00%	1.01 to 2.00%	Greater Than 2.00%	Total
PAD District I	1,934	614	2,767	2,053	6,366	13,734
Florida	0	0	683	604	1,512	2,799
Maine	0	0	0	0	613	613
Maryland	0	0	299	303	246	848
Massachusetts	0	0	172	0	1,159	1,331
New Jersey	366	84	109	96	1,578	2,232
New York	1,569	530	701	926	436	4,162
North Carolina	0	0	0	94	0	94
Pennsylvania	0	0	503	0	0	503
Rhode Island	0	0	0	0	159	159
South Carolina	0	0	0	0	50	50
Virginia	0	0	299	30	613	942
PAD District II	0	0	282	20	2	303
Michigan	0	0	212	0	0	212
North Dakota	0	0	0	20	2	22
Ohio	0	0	70	0	0	70
PAD District III	1,608	0	566	0	1,289	3,463
Louisiana	1,279	0	199	0	942	2,419
Texas	329	0	367	0	347	1,043
PAD District IV	0	0	0	0	0	0
PAD District V	2	178	0	163	0	343
Hawaii	2	178	0	163	0	343
Washington	0	0	0	0	0	0
All PAD Districts	3,544	792	3,614	2,235	7,657	17,843

Note: Total may not equal sum of components due to independent rounding.
Sources: See Explanatory Notes on Data Collection and Estimation.



Alcohol. The family name of a group of organic chemical compounds composed of carbon, hydrogen, and oxygen. The series of molecules vary in chain length and are composed of a hydrocarbon plus a hydroxyl group, $\text{CH}-(\text{CH})_n\text{-OH}$. "Alcohol" includes ethanol and methanol.

Asphalt. A dark-brown-to-black cement-like material, containing bitumens as the predominant constituents, obtained by petroleum processing. The definition includes crude asphalt as well as the following finished products: cements, fluxes, the asphalt content of emulsions (exclusive of water), and petroleum distillates blended with asphalt to make cutback asphalts. The conversion factor is 5.5 42-gallon barrels per short ton.

ASTM. The acronym for the American Society for Testing and Materials.

Aviation Gasoline Blending Components. Finished components in the gasoline range which will be used for blending or compounding into finished aviation gasoline.

Aviation Gasoline (Finished). All special grades of gasoline for use in aviation reciprocating engines, as given in ASTM Specification D 910 and Military Specification MIL-G-5572.

Barrel. A volumetric unit of measure for crude oil and petroleum products equivalent to 42 U.S. gallons. This measure is used in most statistical reports. Factors for converting petroleum coke, asphalt, and wax to barrels are given in the definitions for these products.

Butane. A normally gaseous paraffinic hydrocarbon, C_4H_{10} . It is extracted from natural gas or refinery gas streams. Butane is covered by ASTM Specification D1835 and Gas Processors Association Specification for commercial butane.

- **Normal Butane**—A saturated straight-chain hydrocarbon of butane. It is a colorless paraffinic gas that boils at a temperature of 31.1°F . This classification includes mixtures of gases that contain 80 percent or more normal butane.
- **Other Butanes**—All butanes not included as normal butane or isobutane.

Butane-Propane Mixtures. Mixtures consisting exclusively of butane and propane that conform to ASTM Specification D1835 and Gas Processors Specification for commercial butane-propane. They are extracted from natural gas and refinery gas streams.

Butylene. An olefinic hydrocarbon, C_4H_8 , recovered from refinery processes. It is reported in the "Butane" category.

Coal. A generic term applied to carbonaceous rocks that were formed by the partial or complete decomposition of vegetation. These stratified carbonaceous rocks are either solid or brittle and are highly combustible. Includes lignite, bituminous coal, and anthracite which conform to ASTM Specification D 388.

Crude Oil (including Lease Condensate). A mixture of hydrocarbons that existed in liquid phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Lease condensate is included. Drips are also included, but topped crude (residual) oil and other unfinished oils are excluded. Liquids produced at natural gas processing plants and mixed with crude oil are likewise excluded where identifiable. Crude oil is considered as either domestic or foreign, according to the following:

- **Domestic**—Crude oil produced in the United States or from its outer continental shelf as defined in 43 U.S.C. 1331. Hydrocarbons such as shale oil and tar sand oil are included.
- **Foreign**—Crude oil produced outside the United States. Imported Athabasca hydrocarbons are included.

Distillate Fuel Oil. A general classification for one of the petroleum fractions produced in conventional distillation operations. It is used primarily for space heating, on- and off-highway diesel engine fuel (including railroad engine fuel and fuel for agricultural machinery), and electric power generation. Included are products known as No. 1 and No. 2 heating oils, No. 1 and No. 2 diesel fuel oils, and No. 4 fuel oil.

- **No. 1 Fuel Oil**—A light distillate fuel oil intended for vaporizing pot-type burners. ASTM Specification D 396 specifies for this grade maximum distillation temperatures of 400° F. at the 10-percent point and 550° F. at the 90-percent point, and kinematic viscosities between 1.4 and 2.2 centistokes at 100° F.
- **No. 2 Fuel Oil**—A distillate fuel oil for domestic heating for use in atomizing-type burners or for moderate capacity commercial-industrial burner units. ASTM Specification D 396 specifies for this grade temperatures at the 90-percent point between 540° and 640° F., and kinematic viscosities between 2.0 and 3.6 centistokes at 100° F.
- **No. 1 and No. 2 Diesel Fuel Oils**—Distillate fuel oils used in compression-ignition engines, as given by ASTM Specification D 975:
 1. **No. 1-D**—A volatile distillate fuel oil in the 400° to 550° F. boiling range for engines in service requiring frequent speed and load changes. Type C-B diesel fuel, which is used for city buses and similar operations, is included.
 2. **No. 2-D**—A distillate fuel oil of lower volatility in the 540° to 640° F. boiling range for engines in industrial and heavy mobile service. Type R-R diesel fuel for railroad compression-ignition engines and Type T-T for diesel-engine trucks are included.
- **No. 4 Fuel Oil**—A fuel oil for commercial burner installations not equipped with preheating facilities. It is used extensively in industrial plants. This grade is a blend of distillate fuel oil and residual fuel oil stocks that conforms to ASTM Specification D 396 or Federal Specification VV-F-815C; its kinematic viscosity is between 5.8 and 26.4 centistokes at 100° F. Also included is No. 4-D, a fuel oil for low- and medium-speed diesel engines that conforms to ASTM Specification D 975.

Eastern Hemisphere. That half of the earth east of the Atlantic Ocean which includes Europe, Asia, Africa, and Australia. The Hawaiian Foreign Trade Zone is in this hemisphere.

Electric Energy (Purchased). Electricity purchased for refinery operations that is not produced within the refinery complex.

Ethane. A normally gaseous paraffinic hydrocarbon, C_2H_6 , extracted from natural gas and refinery gas streams. "Ethane" includes any product containing 90 percent liquid volume or more ethane.

Ethane-Propane Mixtures. Mixtures of ethane and propane in which neither component is 90 percent or more of the liquid volume. It is extracted for natural gas and refinery gas streams.

Ethylene. An olefinic hydrocarbon, C_2H_4 , recovered from refinery and petrochemical processes. It is reported in the "Ethane" category.

Field Production. Represents crude oil production on leases, natural gas liquids production at natural gas processing plants, and new supply of other hydrocarbons and alcohol.

Gas Well Gas. Natural gas produced from gas wells. Such gas may be either associated gas or non-associated gas.

- **Associated Gas**—Free natural gas in immediate contact, but not in solution, with crude oil in the reservoir.
- **Non-Associated Gas**—Free natural gas not in contact with, nor dissolved in, crude oil in the reservoir.

Imported Crude Oil Burned as Fuel. The amount of foreign crude oil burned as a fuel oil, usually as residual fuel oil, without being processed as such. "Imported crude oil burned as fuel" includes lease condensate and liquid hydrocarbons produced from tar sand oil, gilsonite, and oil shale.

Isobutane. A saturated branch-chain isomer of butane. It is a colorless paraffinic gas that boils at a temperature of 10.9° F. This classification includes mixtures of gases that contain 80 percent liquid volume or more isobutane. It is extracted from natural gas and refinery gas streams.

Isopentane. A saturated branch-chain hydrocarbon, C₅H₁₂, obtained by fractionation of natural gasoline or isomerization of normal pentane.

Kerosene. A petroleum distillate that boils at a temperature between 300° and 550° F., that has a flash point higher than 100° F. by ASTM Method D 56, that has a gravity range from 40° to 46° API, and that has a burning point in the range of 150° to 175° F. It is a clean-burning product suitable for use as an illuminant when burned in wick lamps. Includes grades of kerosene called range oil having properties similar to No. 1 fuel oil, but with a gravity of about 43° API and having a maximum end-point of 625° F. Kerosene is used in space heaters, cook stoves, and water heaters.

Kerosene-Type Jet Fuel. A quality kerosene product with an average gravity of 40.7° API, a 10-percent distillation temperature of 400° F., and an end-point of 572° F. It is covered by ASTM Specification D 1655 and Military Specification MIL-T-5624L (Grade JP-5 and JP-8). It is used primarily for commercial turbojet and turboprop aircraft engines.

Lease Condensate. A natural gas liquid recovered from gas well gas (associated and non-associated) in lease separators or natural gas field facilities. Lease condensate consists primarily of pentanes and heavier hydrocarbons.

Lease Separator. A surface facility used for separating casinghead gas from produced crude oil and water and separating gas from that portion of associated gas and non-associated gas that liquefies at the temperature and pressure conditions of the separator.

Liquefied Petroleum Gases (LPG). Propane, propylene, butanes, butylene, ethane-propane mixtures, and isobutane produced at refineries or natural gas processing plants, including plants that fractionate raw natural gas plant liquids. Formerly called "Liquefied Gases."

Liquefied Refinery Gases (LRG). Liquefied petroleum gases fractionated from refinery or still gases. Through compression and/or refrigeration they are retained in the liquid state. The reported categories are ethane and/or ethylene, propane and/or propylene, butane and/or butylene, butane-propane mixtures, and isobutane. Excludes still gases used for chemical or rubber manufacture which are reported as petrochemical feedstocks and also excludes liquefied gases ready for blending into gasoline which are reported as gasoline blending components. Liquefied refinery gases are reported for use as petrochemical feedstocks, other uses, or both.

Lubricants. A substance used to reduce friction between bearing surfaces. Petroleum lubricants may be produced either from distillates or residues. Other substances may be added to impart or improve certain required properties. "Lubricants" includes all grades of lubricating oils from spindle oil to cylinder oil and those used in greases. The three categories reported are:

- **Bright Stock**—A refined, high viscosity lubricating oil base stock that is usually made from a residuum by a treatment such as deasphalting, acid treatment, or solvent extraction.
- **Neutral**—A distillate lubricating oil base stock with a viscosity that is usually not above 550 Saybolt Universal Seconds (SUS) at 100° F. It is prepared by a treatment such as hydrofining, acid treatment, or solvent extraction.
- **Other**—A lubricating oil base stock used in finished lubricating oils and greases, including black, coastal, and red oils.

Miscellaneous Products. Includes all finished products not classified elsewhere. "Miscellaneous products" include petrolatum, absorption oils, ram-jet fuel, petroleum rocket fuels, synthetic natural gas feedstocks, and other finished products.

Motor Gasoline Blending Components. Finished components in the gasoline range that will be used for blending or compounding into finished motor gasoline. Pool gasoline is included in this category.

Motor Gasoline (Finished). A complex mixture of relatively volatile hydrocarbons, with or without small quantities of additives, that have been blended to form a fuel suitable for use in spark-ignition

engines. Specifications for motor gasoline, as given in ASTM Specification D 439 or Federal Specification VV-G-1690B, include a boiling range of 122° to 158° F. at the 10-percent point to 365° to 374° F. at the 90-percent point and a Reid vapor pressure range from 9 to 15 psi. "Motor gasoline" includes finished leaded gasoline, finished unleaded gasoline, and gasohol. Blendstock is excluded until blending has been completed. Alcohol that is to be used in the blending of gasohol is also excluded.

- **Finished Leaded Gasoline**—Contains more than 0.05 grams of lead per gallon or more than 0.005 grams of phosphorus per gallon. The actual lead content of any given gallon, however, may vary as a function of the size of the producer and company according to specific Environmental Protection Agency waiver provisions. Premium and regular grades are included, depending on the octane rating.
- **Finished Unleaded Gasoline**—Contains up to 0.05 grams of lead per gallon and 0.005 grams of phosphorus per gallon. Premium and regular grades are included, depending on the octane rating.
- **Gasohol**—A blend of alcohol and finished motor gasoline that is no more than 90 percent of finished motor gasoline (leaded or unleaded as described above) and no less than 10 percent or more alcohol (ethanol or methanol).

Motor Gasoline (Total). Includes finished leaded motor gasoline, finished unleaded motor gasoline, motor gasoline blending components, and gasohol.

Naphtha-Type Jet Fuel. A fuel in the heavy naphtha boiling range with an average gravity of 52.8° API and 20 to 90 percent distillation temperatures of 290° to 470° F., meeting Military Specification MIL-T-5624L (Grade JP-4). JP-4 is used for turbojet and turboprop aircraft engines, primarily by the military. This category excludes ram-jet and petroleum rocket fuels, which are included in the "Miscellaneous Products" category.

Natural Gas. A mixture of hydrocarbons and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in underground reservoirs.

Natural Gas Field Facility. A field facility designed to process natural gas produced from more than one lease for the purpose of recovering condensate from a stream of natural gas; however, some field facilities are designed to recover propane, butane, natural gasoline, etc., and to control the quality of natural gas to be marketed.

Natural Gas Plant Liquids. Natural gas liquids recovered from natural gas in gas processing plants, and in some situations, from natural gas field facilities. Natural gas liquids extracted by fractionators are also included. These liquids are defined according to the published specifications of the Gas Processors Association and the American Society for Testing and Materials, and are classified as follows: Ethane, propane, ethane-propane mix, isobutane, butane, butane-propane mix, isopentane, natural gasoline, plant condensate, unfractionated stream, and other products from natural gas processing plants (i.e., products meeting the standards of finished petroleum products produced at natural gas processing plants, such as finished motor gasoline, finished aviation gasoline, special naphthas, kerosene, distillate fuel oil, and miscellaneous products).

Natural Gas Processing Plant. A facility designed to recover natural gas liquids from a stream of natural gas that may or may not have been processed through lease separators or natural gas field facilities. The facility also controls the quality of natural gas to be marketed. Cycling plants are classified as gas processing plants.

Natural Gasoline. A mixture of hydrocarbons, mostly pentanes and heavier, extracted from natural gas, that meets vapor pressure, end-point, and other specifications for natural gasoline set by the C Producers Association.

OPEC. The acronym for the Organization of Petroleum Exporting Countries, oil-producing and exporting countries that have organized for the purpose of negotiating with oil companies on matters of oil production, prices, and future concession rights. Current members are Algeria, Ecuador, Gal Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, Venezuela.

Operable Distillation Capacity. The maximum amount of input that can be processed by a crude distillation unit in a 24-hour period, making allowances for processing limitations due to type

grades of inputs, limitations of downstream facilities, scheduled and unscheduled downtimes, and environmental constraints. Includes any shutdown capacity that could be placed in operation within 30 days.

Other Hydrocarbons. Materials received by a refinery and consumed as raw materials. Includes hydrogen, coal, tar derivatives, gilsonite, and natural gas received by the refinery for reforming into hydrogen. Natural gas to be used as fuel is excluded.

Petrochemical Feedstocks. Chemical feedstocks derived from petroleum, principally for the manufacture of synthetic rubber and a variety of plastics. The categories reported are "Naphtha-less than 400° F. end-point" and "Other oils over 400° F. end-point."

- **Naphtha less than 400° F. end-point**—A naphtha with an end point of less than 400° F. and that is reported as used as a petrochemical feedstock.
- **Other oils over 400° F. end-point**—Oils with an end point over 400° F. and that are reported as used as a petrochemical feedstock.

Petroleum Coke. A residue, the final product of the condensation process in cracking. This product is reported as marketable coke or catalyst coke. The conversion factor is 5.42-gallon barrels per short ton.

- **Marketable Coke**—Those grades of coke that are produced in delayed or fluid cokers and which may be recovered as relatively pure carbon. This "green" coke may be sold or further purified by calcining.
- **Catalyst Coke**—In many catalytic operations (i.e., catalytic cracking) carbon is deposited on the catalyst, thus deactivating the catalyst. The catalyst is reactivated by burning off the carbon which is used as fuel in the refinery process. This carbon or coke is not recoverable in concentrated form.

Petroleum Products. Petroleum products are obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds. Petroleum products include unfinished oils, natural gasoline and isopentane, plant condensate, unfractionated stream, ethane, liquefied petroleum gases, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, naphtha less than 400° F. end-point, other oils over 400° F. end-point, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

Petroleum Refinery. An installation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas plant liquids, other hydrocarbons, and alcohol.

Plant Condensate. One of the natural gas plant liquids, mostly pentanes and heavier hydrocarbons, recovered and separated as liquids at gas inlet separators or scrubbers in processing plants.

Primary Stocks. Stocks of crude oil or petroleum products held in storage at (or in) leases, refineries, natural gas processing plants, pipelines, tankfarms, and bulk terminals that can store at least 50,000 barrels of petroleum products or that can receive petroleum products by tanker, barge, or pipeline. Crude oil that is in transit from Alaska, or that is stored on Federal leases or in the Strategic Petroleum Reserve is included. "Primary Stocks" excludes stocks of foreign origin that are held in bonded warehouse storage.

Propane. A normally gaseous hydrocarbon, C_3H_8 , extracted from natural gas and refinery gas streams. It is used primarily as a fuel and as a petrochemical feedstock. Propane is covered by ASTM Specification D1835, Gas Processors Association for commercial and HD-5 propane, and ASME Specification for special duty propane.

Propylene. An olefinic hydrocarbon, C_3H_6 , recovered from refinery and petrochemical processes. It is reported in the "Propane" category.

Residual Fuel Oil. Topped crude of refinery operations. "Residual Fuel Oil" includes No. 5 and No. 6 fuel oils as defined in ASTM Specification D 396 and Federal Specification VV-F-815C; Navy Specification 128, fuel oil as defined in Military Specification MIL-F-859E including Amendment 2; Bunker C fuel oil. Residual fuel oil is used for the production of electric power, space heating, vessel bunkering, and various industrial purposes. Imports of residual fuel oil include "Imported Crude Oil Burned as Fuel."

Road Oil. Any heavy petroleum oil, including residual asphaltic oils, used as a dust palliative and surface treatment of roads and highways. It is generally produced in six grades; from 0, the most liquid, to 5, the most viscous.

Special Naphthas. All finished products within the gasoline range that are used as paint thinners, cleaners, and solvents. These products are refined to a specified flash point and have a boiling range of 90° to 220° F. "Special naphthas" includes all commercial hexane and cleaning solvents conforming to ASTM Specifications D1836 and D 484, respectively. Naphthas to be blended or marketed as motor gasoline or aviation gasoline or that are to be used as petrochemical and synthetic natural gas (SNG) feedstocks are excluded.

Steam (Purchased). Steam that is purchased for use by a refinery that was not generated from within the refinery complex.

Still Gas (Refinery Gas). Any form or mixture of gas produced in refineries by distillation, cracking, reforming, and other processes. The principal constituents are methane, ethane, ethylene, butane, butylene, propane, propylene, etc. Still gas is reported for petrochemical feedstock use and refinery fuel use.

- **Petrochemical Feedstock Use**—Includes all refinery streams which are used by chemical or rubber manufacturing operations for further processing, less the amount of such streams returned to the source refinery. Finished petrochemical products are not included. For example, polyethylene, butadiene, etc. are considered petrochemical products; therefore, only their feedstock equivalents are included.

- **Fuel Use**—All other still gas.

Strategic Petroleum Reserve (SPR). Stocks (currently, only crude oil) maintained by the Federal Government for use during periods of major supply interruption.

Unfinished Oils. Includes all oils requiring further processing, except those requiring only mechanical blending.

Unfractionated Stream. Mixtures of unsegregated natural gas plant liquid components excluding those included in plant condensate. This product is extracted from natural gas.

Wax. A solid or semi-solid material derived from petroleum distillates or residues by such treatment as chilling, precipitating with a solvent, or de-oiling. It is a light-colored, more-or-less translucent crystalline mass, slightly greasy to the touch, consisting of a mixture of solid hydrocarbons in which the paraffin series predominates. Includes all marketable wax whether crude scale or fully refined. The three grades reported are microcrystalline, crystalline—fully refined, and crystalline—other. The conversion factor is 280 pounds per 42-gallon barrel.

- **Microcrystalline Wax**—Wax extracted from certain petroleum residues having a finer and less apparent crystalline structure than paraffin wax and having the following physical characteristics:

- Penetration at 77° F. (D-1321)—60 maximum.
 - Viscosity at 210° F. in Saybolt Universal Seconds (SUS) (D-88)—60 SUS (10.22 centistokes) minimum to 150 SUS (31.8 centistokes) maximum.
 - Oil content (D-721)—5 percent minimum.

- **Crystalline-Fully Refined Wax**—A light-colored paraffin wax having the following characteristics:

- Viscosity at 210° F. (D-88)—59.9 SUS (10.18 centistokes) maximum.
 - Oil Content (D-721)—0.5 percent maximum.
 - Other +20 color, Saybolt minimum.

- **Crystalline-Other Wax**—A paraffin wax having the following characteristics:

- Viscosity at 210° F. (D-88)—59.9 SUS (10.18 centistokes) maximum.
 - Oil Content (D-721)—0.51 percent minimum to 15 percent maximum.

Western Hemisphere. That half of the earth that includes North and South America and the surrounding waters.

Bureau of Mines Petroleum Refining Districts and PAD Districts

PAD District

Refining District

I

East Coast—District of Columbia and the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, and the following counties of the State of New York: Cayuga, Tompkins, Chemung and all counties east and north thereof. Also the following counties in the State of Pennsylvania: Bradford, Sullivan, Columbia, Montour, Northumberland, Dauphin, York, and all counties east thereof.

Appalachian #1—The State of West Virginia, those parts of the States of Pennsylvania and New York not included in the East Coast District.

Appalachian #2—The following counties of the State of Ohio: Erie, Huron, Crawford, Marion, Delaware, Franklin, Pickaway, Ross, Pike, Scioto, and all counties east thereof.

Indiana—Illinois—Kentucky—The States of Indiana, Illinois, Kentucky, Tennessee, Michigan, and that part of the State of Ohio not included in the Appalachian District.

II

Minnesota—Wisconsin—North and South Dakota—The States of Minnesota, Wisconsin, North Dakota, and South Dakota.

Oklahoma—Kansas—Missouri—The States of Oklahoma, Kansas, Missouri, Nebraska, and Iowa.

Texas Inland—The State of Texas except the Texas Gulf Coast District.

Texas Gulf Coast—The following counties of the State of Texas: Newton, Orange, Jefferson, Jasper, Tyler, Hardin, Liberty, Chambers, Polk, San Jacinto, Montgomery, Harris, Galveston, Waller, Fort Bend, Brazoria, Wharton, Matagorda, Jackson, Victoria, Calhoun, Refugio, Aransas, San Patricio, Nueces, Kleberg, Kenedy, Willacy, and Cameron.

III

Louisiana Gulf Coast—The following Parishes of the State of Louisiana: Vernon, Rapides, Avoyelles, Pointe Coupee, West Feliciana, East Feliciana, Saint Helena, Tangipahoa, Washington, and all Parishes south thereof. Also the following counties of the State of Mississippi: Pearl River, Stone, George, Hancock, Harrison, and Jackson. Also the following counties of the State of Alabama: Mobile and Baldwin.

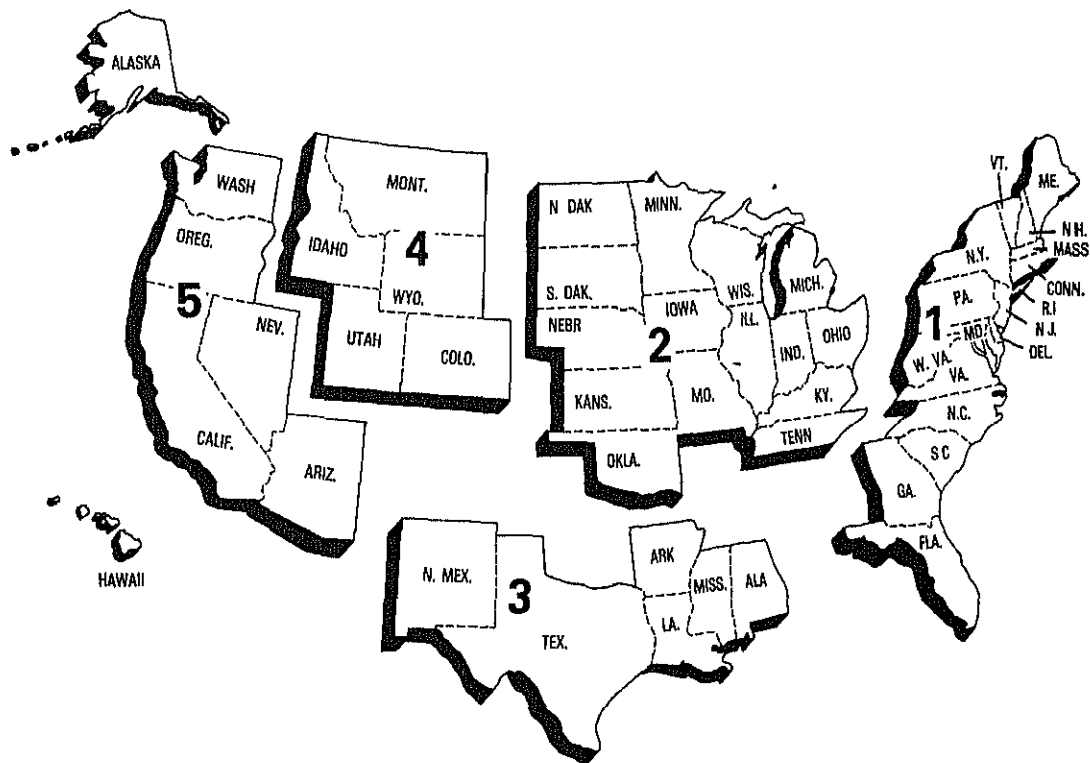
North Louisiana—Arkansas—The State of Arkansas and those parts of the States of Louisiana, Mississippi, and Alabama not included in the Louisiana Gulf Coast District.

New Mexico—The State of New Mexico.

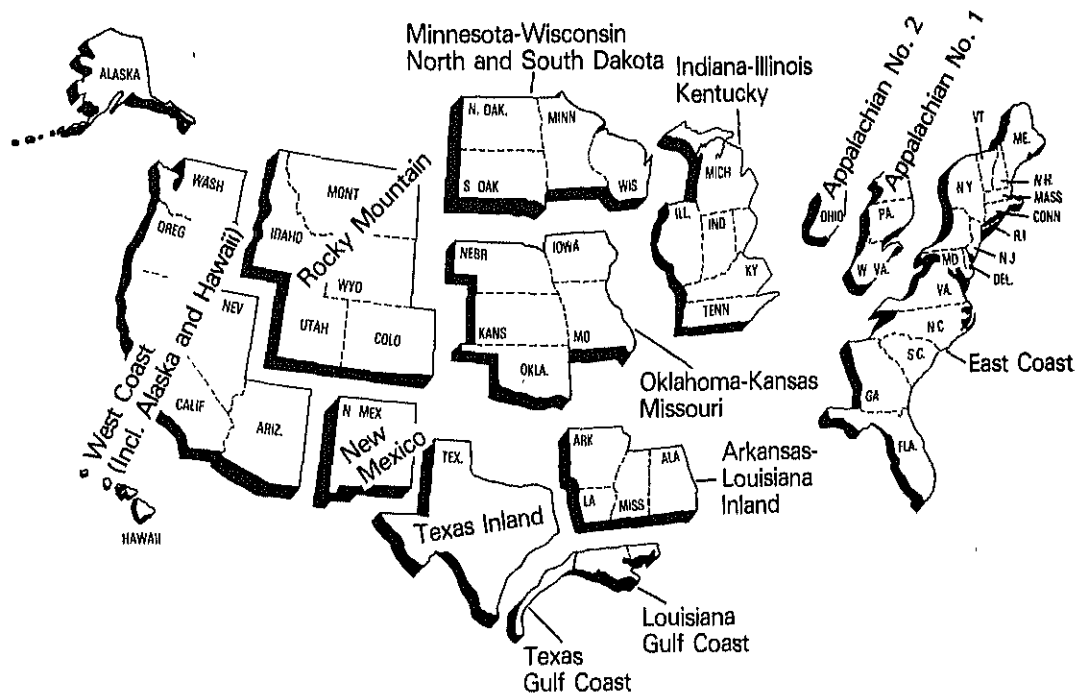
Rocky Mountain—The States of Montana, Idaho, Wyoming, Utah, and Colorado.

West Coast—The States of Washington, Oregon, California, Nevada, Arizona, Alaska, and Hawaii.

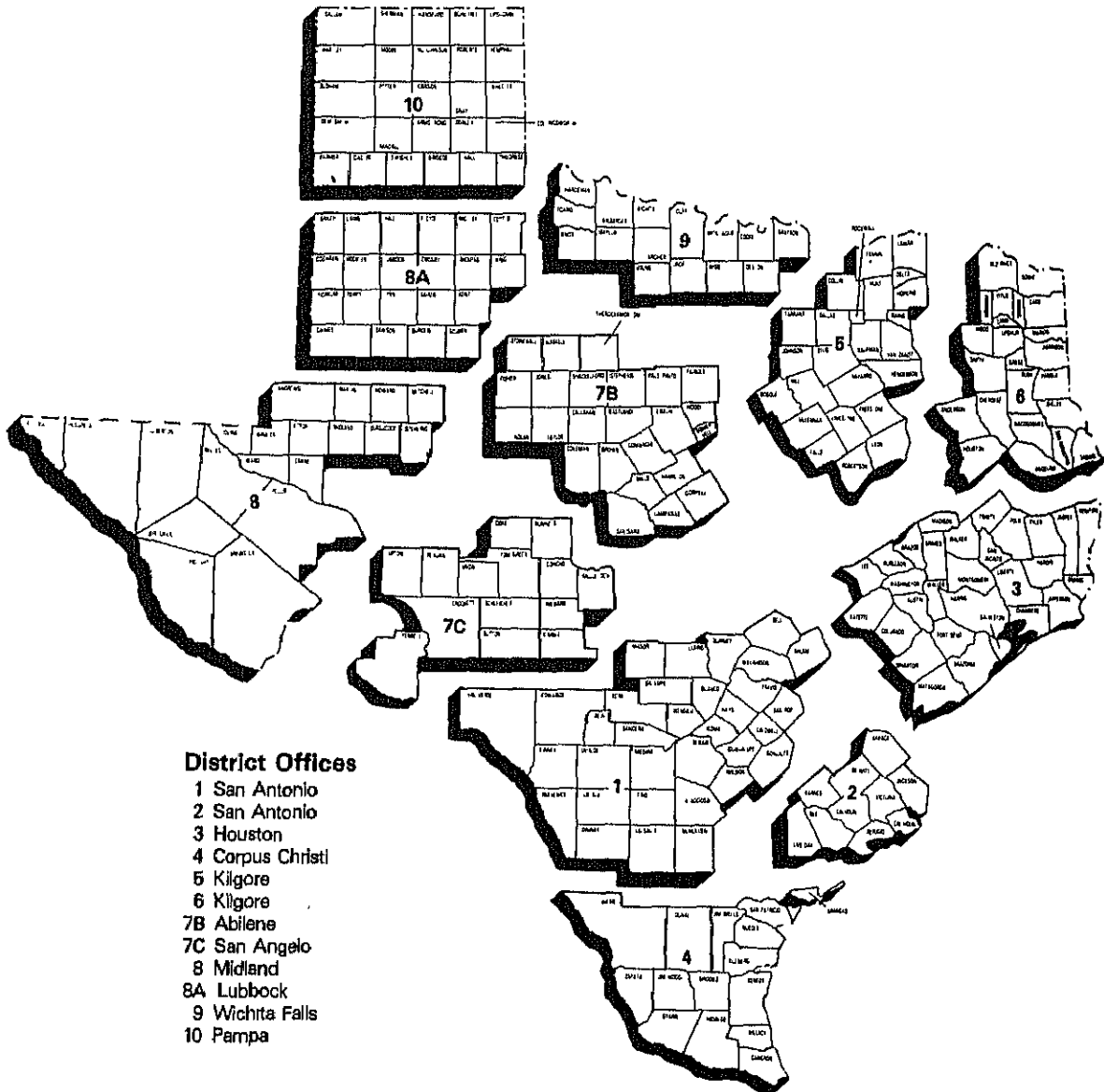
Petroleum Administration for Defense (PAD) Districts



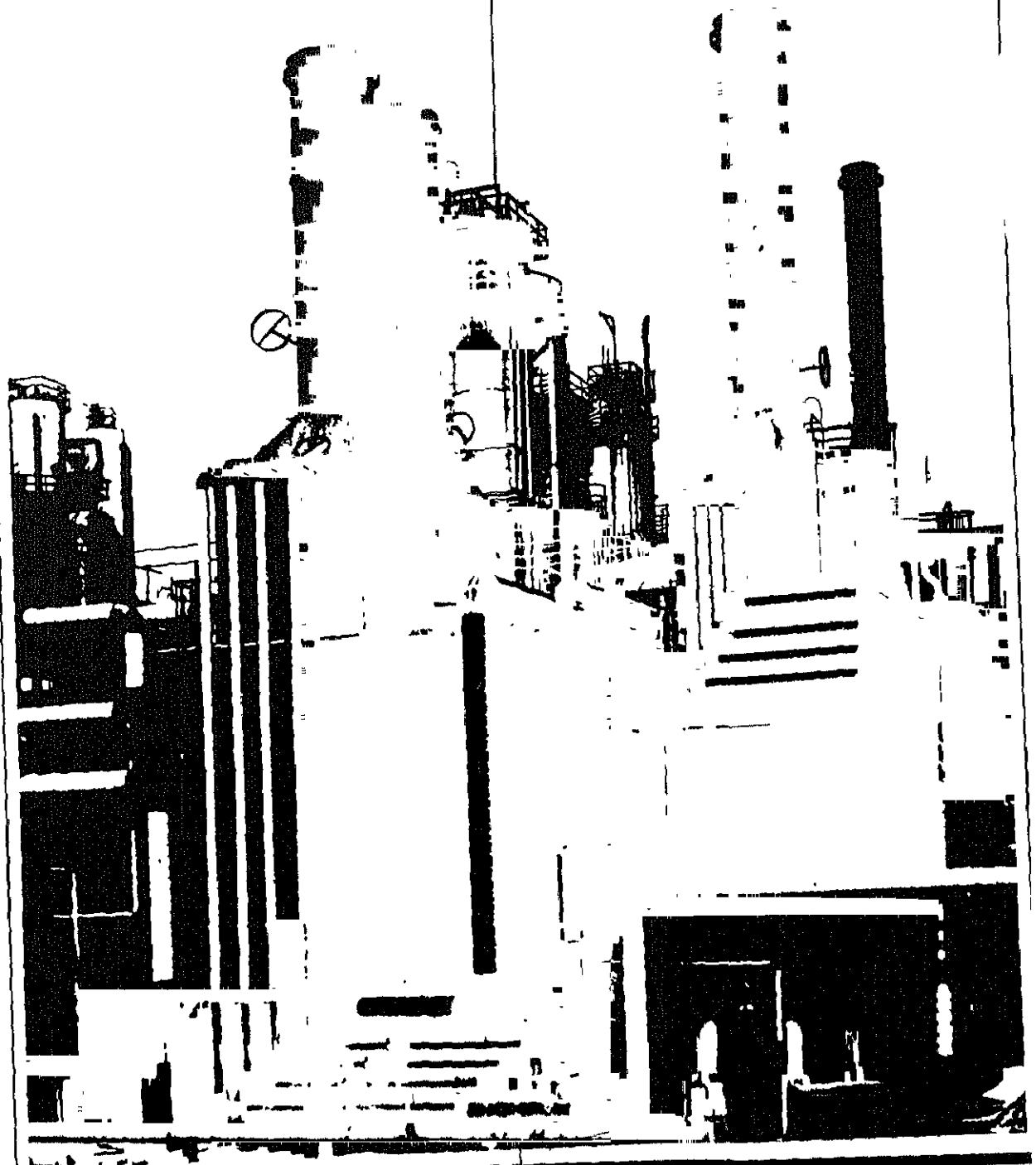
Bureau of Mines Refining Districts



District Map Oil and Gas Division Railroad Commission of Texas



Explanatory Notes



Explanatory Notes

Note 1.1 EIA-64: Natural Gas Liquids Operations Report

Background

The EIA-64, "Natural Gas Liquids Operations Report" evolved from a survey designed and conducted by the United States Geological Survey beginning in 1911. This form collects data on the production and storage of natural gas plant liquids at natural gas processing plants and fractionators.

Description of Survey

Universe

The universe includes all operators of facilities designed to: (1) extract liquid hydrocarbons from natural gas streams (natural gas processing plants); (2) separate a combined products liquid hydrocarbon stream into its component products, i.e. propane, butane, natural gasoline, etc. (fractionators); or (3) store the liquid hydrocarbon output of plants and fractionators.

The mailing list is automated. It is maintained by matching periodically with the *LP Gas Almanac* listings (including supplements) and the *Oil and Gas Journal* Processing Plant Survey listings, and by making changes reported by the respondents.

Information Collected

The data are submitted monthly by facility and include all products that the company controls through possession, regardless of ownership. The main items of information collected by the EIA-64 are shown by the example of the form presented below.

Collection Methods

Completed reports are required to be postmarked 20 days following the last day of the report month. Follow-up telephone calls are made to nonrespondents in order to collect data before publication of the aggregated data.

Imputing Missing Data

Imputation is performed only for companies that submitted a report in the previous month. For such companies, previous monthly values are used for current values. The previous month's ending stocks value is used for both the current month's beginning stocks and the current month's ending stocks. The value of shipments is adjusted to balance stock level, production, receipts, plant fuel use, and losses. In the event that the previous month's data were estimated, the respondent is contacted and requested to submit estimates, if necessary, to be followed by a resubmission of actual data.

Response Rates

The initial response rate averages 85 percent, with a final response averaging 98 percent as a result of telephone follow-up procedures.

Data Processing

ved for identification section omissions, duplicate submissions, and
The data are then entered and edited. The edit program includes
es, range checks for current-month to previous-month changes
calculation errors, line balancing errors, etc. Telephone calls are
stions.

89 and 90: Joint Petroleum Reporting

stem (JPRS) comprises four surveys: the "Refinery Report" (EIA-
ort" (EIA-88); the "Pipeline Products Report" (EIA-89); and the

U.S. Department of Energy
Energy Information Administration
Mail Station: BG-086 Forstl
Washington, D C 20585

Natural Gas Liquids Operations Report

This Report is Mandatory Under Public Law 93-275. Failure to Comply
may Result in Criminal Fines, Civil Penalties and Other Sanctions as Provided
by Law

Report Type

EIA Company Identification Number

Report Date (Last Day of Reporting Month)

Zip Code of Plant Location

If Resubmission Insert X in Block

For DOE Use Only

Form Approved
OMB No 1905-

Plant Name

Section 1. Natural Gas Processing Plant and Fractionator Operations (Barrels of 42 Gallons)

Products	Product Code	Stocks Beginning of Month (a)	Receipts During Month (b)	Inputs During Month (c)	Production During Month (d)	Shipments To					Plant Fuel Use (k)	Losses (m)	Stocks End of Month (n)
						Fractionating Facility (e)	Storage Facility (f)	Refinery (g)	Chemical Plant (h)	Other (i)			
Ethane	110												
Propane	231												
Ethane-Propane Mix	241												
Isobutane	233												
Normal Butane	235												
Other Butanes	236												
Butane-Propane Mix	234												
Isopentane	240												
Natural Gasoline													
14# and Less RVP	228												
Over 14# RVP	229												
Plant Condensate	210												
Unfractionated Stream	227												
Gasoline													
Finished Aviation	111												
Finished Lead	132												
Finished Unleaded	133												
Gasohol	135												
Special Naphthas	051												
Jet Fuel													
Naphtha Type	211												
Kerosene Type	213												
Kerosene	311												
Distillate Fuel Oil	412												
Other Products (Specify)													
Overage (Inputs or Storage (Production))	911	X	X			X	X	X	X	X			X

"Crude Oil Stocks Report" (EIA-90). This group of forms collects data on petroleum refinery operations and on storage of crude oil and petroleum products. The origins of JPRS lie in the voluntary petroleum reporting systems instituted by the Bureau of Mines (BOM) soon after it was established as a part of the Department of the Interior in May 1910.

Description of Survey

Universe

The respondent universe of each JPRS survey is defined as follows:

EIA-87: All petroleum refineries and plants producing finished motor gasoline through mechanical blending of liquids which are operated or controlled in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Hawaiian Foreign Trade Zone, and Guam.

EIA-88: All bulk terminal facilities in the 50 States and the District of Columbia, Puerto Rico, and the Virgin Islands that (a) have total bulk storage capacity of 50,000 barrels or more and/or (b) receive petroleum products by tanker, barge, or pipeline regardless of ownership of the material.

EIA-89: All products pipeline companies that carry petroleum products (including interstate and intracompany pipelines) in the 50 States and the District of Columbia.

EIA-90: Crude oil pipeline companies (gathering and trunk pipeline companies), crude oil production terminal operators, storers of crude oil, and companies transporting Alaskan crude oil by water in excess of 1,000 barrels, regardless of ownership in the 50 States and the District of Columbia.

The list of respondents is kept current by checking for new respondents in the *Oil and Gas Journal* weekly magazine; newspaper articles; the Office of Resource Applications publication "Trends in Refinery Capacity & Utilization;" the Office of Refinery Operations (ERA) list of U.S. Refiners; and an annual survey EIA-177 "Capacity of Petroleum Refineries."

Information Collected

The main items of information collected by EIA-87, are shown by the example presented below. EIA-88 and EIA-89 collect data on petroleum product stocks. The EIA-90 collects data on crude oil stocks and crude oil used directly as fuel.

Collection Methods

The data for the JPRS surveys are collected on a monthly basis. Completed forms are required postmarked by the 20th day following the report month. Telephone follow-up calls are made to nonrespondents in order to collect data before publication deadline. An automated mailing list is maintained and is used to monitor receipt of the forms.

Imputing Missing Data

Imputation is performed only for companies that submitted a report in the previous month. For companies, the previous monthly values are used for current values. The previous month's ending stock value is used for both the current month's beginning stocks and the current month's ending stocks. The value of shipments is adjusted to balance stock level, production receipts, and losses. In the event previous month's data were estimated, the respondent is contacted and requested to submit estimates if necessary, to be followed by a resubmission of actual data.

Response Rates

As of the filing deadline, the response rate of the JPRS respondents is over 90 percent. All companies that have not responded are contacted by telephone. Although data are taken by telephone to expedite processing, a certified submission is still required. Thirty calendar days after the report month, data from companies that still fail to file the form are estimated based on prior month's data. Names of companies that fail to file for two consecutive months are forwarded to DOE for further noncompliance action. Final response rate is 100 percent.

Report Type **B 0 1** EIA Company Identification No. Report Period: Yr. Mo.

SECTION 8. REFINERY STOCKS, RECEIPTS, INPUTS, PRODUCTION, SHIPMENTS AND REFINERY FUEL USE AND LOSSES (Thousands of Barrels of 42 Gallons)								
ITEM DESCRIPTION	PRO DUCT CODE	STOCKS BEGINNING OF MONTH A	RECEIPTS DURING MONTH B	INPUTS DURING MONTH C	PRODUCTION DURING MONTH D	SHIPMENTS DURING MONTH E	REFINERY FUEL USE AND LOSSES DURING MONTH F	STOCKS END OF MONTH G
Crude oil (incl. lease condensate) Total (sum of codes 010 and 020)	080				X			
Domestic (incl. Alaskan)	010	X		X	X	X	X	X
Foreign	020	X		X	X	X	X	X
Alaskan	011	X		X	X	X	X	X
Products of natural gas proc. plants								
Ethane	110				X			
Propane	231				X			
Ethane-propane mixtures	241				X			
Isobutane	233				X			
Normal butane	235				X			
Other butanes	236				X			
Butane-propane mixtures	234				X			
Natural gasoline and isopentane	220				X			
Plant condensate	210				X			
Unfractionated stream	227				X			
Other hydrocarbons and hydrogen	090				X			
Alcohol	091				X			
Unfinished oils	812							
Gasoline								
Finished leaded, motor	132							
Finished unleaded, motor	133							
Blending components, motor	134							
Gasohol	135							
Finished aviation	111							
Blending components, aviation	112							
Special naphthas (solvents)	061							
Jet fuel								
Naphtha type	211							
Kerosene type	213							
Kerosene (incl. range oil)	311							
Distillate fuel oil, Less No. 4	412							
No. 4 fuel oil	414							
Residual fuel oil	511							
Lubricating oils								
Bright stock	853							
Neutral	855							
Other	859							
Asphalt	900							
Wax								
Microcrystalline	061							
Crystalline fully refined	071							
Crystalline other	081							
Petroleum coke								
Marketable	021							
Catalyst	022							
Roast oil	031							
Still gas								
Petrochemical feedstock use	042							
Other use	044							
Ethane and/or ethylene								
Petrochemical feedstock use	812							
Other use	852							
Propane and/or propylene								
Petrochemical feedstock use	813							
Other use	853							
Butane and/or butylene								
Petrochemical feedstock use	814							
Other use	854							
Butane-propane mixtures								
Petrochemical feedstock use	816							
Other use	856							
Isobutane petrochemical feedstock use	815							
Naphtha—less than 400° end point								
Petrochemical feedstock use	822							
Other oils—over 400° end point								
Petrochemical feedstock use	824							
Other finished products								
Non-fuel use	097							
Fuel Use	098							
Overage (Inputs) or shortage (production)	911	X	X	X		X	X	X
TOTAL	990	X	X	X		X	X	X

Note 1.3 EIA-161, 162, 163, 164 and 165: Weekly Petroleum Reporting System

Background

The Weekly Petroleum Reporting System (WPRS) comprises five surveys: the "Refinery Report" (EIA-161); the "Bulk Terminal Stocks Report" (EIA-162); the "Pipeline Product Stock Report" (EIA-163); the "Crude Oil Stocks Report" (EIA-164); and the "Imports Report" (EIA-165).

The EIA weekly reporting system was designed to collect data similar to those collected under the monthly Joint Petroleum Reporting System (JPRS) (See Note 1.2). In the WPRS, selected petroleum companies report weekly data to EIA on crude oil and petroleum product stocks, refinery inputs and production, and crude oil and petroleum product imports. On the Forms EIA-161 through EIA-164, companies report data on a custody basis. On the Form EIA-165, the importer of record reports each shipment entering the United States. Current weekly data and the most recent monthly data from the JPRS are used to estimate the published weekly totals.

Description of Survey

Universe

The sample of companies that report weekly in the WPRS was selected from the universe of companies that report monthly in either the JPRS system or the ERA-60 system (for imports). All sampled companies report data only for facilities in the 50 States and the District of Columbia.

The sampling frame for each weekly survey is defined as follows:

EIA-161: Uses the EIA-87 universe, which includes all petroleum refineries in the United States and its territories, industrial facilities that have crude oil distillation capacity and produce some refined petroleum products, and bulk terminals that blend motor gasoline.

EIA-162: Uses the EIA-88 universe, which includes all bulk terminal facilities in the United States and its territories that have total bulk storage capacity of 50,000 barrels or more, or that receive petroleum products by tanker, barge, or pipeline.

EIA-163: Based on the EIA-89 universe, which includes all petroleum product pipeline companies in the United States and its territories that transport refined petroleum products, including interstate, intrastate and intracompany pipeline movements. Pipeline companies that only transport natural gas liquids are not included in the EIA-163 frame. Only those pipeline companies which transport products covered in the weekly survey are included.

EIA-164: Uses the EIA-90 universe, which consists of all trunk pipeline companies in the United States and its territories which transport crude oil, all refining companies, all crude oil producers, all terminal operators, and all storers of 1,000 barrels or more of crude oil.

EIA-165: Uses the ERA-60 universe, which includes all importers of record of crude oil and petroleum products into the United States and Puerto Rico.

Sampling

The sampling procedure used for the weekly system is the cut-off method. In the cut-off method, companies are ranked from largest to smallest on the basis of the quantities reported during some previous period. Companies are chosen for the sample beginning with the largest and adding companies until the total sample covers about 90 percent of the total for the previous time period.

Collection Methods

Data are collected by mail, mailgram, telephone, Telex, and Telefax on a weekly basis. All canvassed firms and terminal operating companies must file by 5:00 p.m. on the Monday following the close of the report period, 7 a.m. Friday. During the processing week, company corrections of the prior week's data are also entered.

Formula and Calculations

After the company reports have been checked and entered into the weekly data base, ratio estimates of the weekly totals are calculated from the reported data.

First, the current week's data for a given product reported by companies in that region are summed. (Call this weekly sum, W_s .) Next, the most recent month's data for the product reported by those same companies are summed. (Call this monthly sum, M_s .) Finally, let M_t be the sum of the most recent month's data for the product as reported by *all* companies. Then, the current week's ratio estimate for that product for all companies is given by.

$$W_t = \frac{M_t}{M_s} \circ W_s$$

This procedure is used directly to estimate total weekly inputs to refineries and production.

To estimate stocks of finished products, the preceding procedure is followed separately for refineries, bulk terminals, and pipelines. Total estimates are formed by summing over establishment types.

Weekly imports data are highly variable on a company-by-company basis or a week-by-week basis. Under such conditions, the ratio method is known to result in large errors. Hence, a number of other procedures for estimating weekly imports were considered. The average ratio method was selected for estimating imports because it produces estimates that were close to benchmark values computed from monthly data. Estimates are obtained using the ratio method, but with each company in turn omitted from the sample. These estimates are then averaged to obtain the average ratio estimate.

Imputing Missing Data

The ratio method of estimation automatically imputes for nonresponse. Data from companies that do not respond are excluded from both the weekly and the monthly totals for the sampled companies.

Response Rates

The response rate as of the day after the filing deadline is about 80 percent for the EIA-161; 75 percent for the EIA-162; 95 percent for the EIA-163; 80 percent for the EIA-164; and greater than 95 percent for the EIA-165. However, more forms are received the next day, bringing the final response rates up. Late respondents are contacted by telephone. Nearly all of the major companies report on time. The nonresponse rate for the published estimates is usually between 2 percent and 5 percent.

Note 1.4 EIA-170: Tanker and Barge Shipments of Crude Oil and Petroleum Products Between Districts

Background

The EIA-170 survey collects data for calculation of monthly petroleum supply and disposition figures on U.S. and PAD District levels.

Instrument and Design

This form is designed to collect data on total movements by tanker and barge of crude oil and petroleum products between PAD Districts or between PAD Districts and the Panama Canal, by shipping State and receiving State.

Universe

The respondent universe of the EIA-170 consists of all known companies and plants that have custody of crude oil and petroleum products transported by tanker and barge between PAD Districts or between PAD Districts and the Panama Canal. There are currently about 60 respondents.

Collection Methods

Survey data are collected by mail every month. The filing deadline is the 20th calendar day of the month following the report period. The response rate as of the filing deadline is about 98 percent. Late respondents are contacted by telephone. All responses are processed each month before release of the data for publication.

Note 1.5 ERA-60: Reports of Oil Imports into the United States and Puerto Rico

Background

The "Report of Oil Imports into the United States and Puerto Rico" (ERA-60) survey was designed by the Economic Regulatory Administration (ERA) of the Department of Energy to collect data on port of entry, country of origin, destination, and quantity of imported crude oil and petroleum products, as well as sulfur content and API gravity. All licensed importers and importers of record are required to report. The "Shipments of Refined Products from Puerto Rico to the United States" (P-133-M-O) survey was designed to collect data on imports to the United States that are not covered by the ERA-60.

Universe

The monthly submission of Form ERA-60 and P-133-M-O is required by all licensed importers and importers of record into the United States and Puerto Rico. The respondent universe consisted of approximately 750 firms as of June 30, 1981. The respondent universe for these surveys is updated whenever an import license is granted by the Office of Oil Imports of the ERA.

Collection Methods

The survey data are collected by mail each month. It is mandatory for each respondent to file the ERA-60/P-133-M-O by the 15th working day of the month following the reporting period. Resubmissions are received frequently and are processed when received.

Response Rates

In December 1980, the survey had a response rate of 92 percent by the filing deadline. The universe was 640 at that time. (Because this is a dynamic survey, the universe is constantly changing.) Standard followup of nonrespondents is made to insure that all reports are received, since data are not imputed for nonrespondents. Response rate is generally 98-99% by the time the data are first published. Revised publications are not generated as standard operating procedure. The ERA-60 file is never closed; resubmissions are constantly received and processed.

Note 1.6 Census Import (IM-145) and Export (EM-522 and EM-594) Tabulations

The foreign trade statistics program, conducted by the Bureau of the Census, involves compilation and dissemination of a large body of data relating to the imports and exports of the United States.

Import Statistics

Coverage

The import statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. Customs territory (includes the 50 States, the District of Columbia, and Puerto Rico), without regard to whether or not a commercial transaction is involved. In general, the statistics record the physical movement of merchandise into the United States from foreign countries, with the exception of the following types of transactions that are excluded from the statistics:

1. Merchandise shipped in transit through the United States, when documented with Customs as an intransit movement.
2. Shipments between the United States and Puerto Rico, the Virgin Islands, Guam, American Samoa, and other U.S. possessions; shipments between any of these outlying areas; and imports into U.S. possessions from foreign countries.
3. U.S. merchandise returned by U.S. Armed Forces for their own use.

Source of Import Information

The official U.S. import statistics are compiled by the Bureau of the Census from copies of the import entry and warehouse withdrawal forms that importers are required by law to file with Customs officials (Customs Forms 7501- 7505).

Imported petroleum is reported as "Imports for Consumption." Imports for consumption are a combination of entries for immediate consumption and withdrawals from warehouses for consumption. With certain exceptions as indicated above, these data generally reflect the total of commodities entered into U.S. consumption channels.

Country and Area of Origin

The country reported in the statistics as the country of origin is defined as the country where the merchandise was grown, mined, or manufactured. In instances where the country of origin cannot be determined, the transactions are credited to the country of shipment.

Export Statistics

Coverage

The export statistics reflect both government and nongovernment exports of domestic and foreign merchandise from the U.S. Customs territory (includes the 50 States, the District of Columbia, and Puerto Rico) to foreign countries, without regard to whether or not the exportation involves a commercial transaction. In general, the statistics record the physical movement of merchandise out of the United States to foreign countries, with the exception of the following types of transactions:

1. Shipments between the United States and Puerto Rico, the Virgin Islands, Guam, American Samoa, and other U.S. possessions; between any of these outlying areas; and shipments from U.S. Possessions to foreign countries.
2. Merchandise shipped in transit through the United States from one foreign country to another, when documented as such with U.S. Customs.
3. Bunker fuels and other supplies and equipment for use on departing vessels, planes, or other carriers engaged in foreign trade.

Source of Export Information

The official U.S. export statistics are compiled by the Bureau of the Census primarily from copies of Shipper's Export Declarations. Shipper's Export Declarations are required to be filed with Customs officials, except when qualified exporters have been authorized to submit data in the form of magnetic tape, punched cards, or monthly Shipper's Summary Export Declarations directly to the Bureau of the Census.

Country and Area of Destination

The country of destination is defined as the country of ultimate destination or the country where the goods are to be consumed, further processed, or manufactured, as known to the shipper at the time of exportation. If the shipper does not know the country of ultimate destination, the shipment is credited to the last country to which the shipper knows that the merchandise will be shipped in the same form as it was when exported.

Collection Methods

Survey data are collected by mail every month. The filing deadline is the 20th calendar day of the month following the report period. The response rate as of the filing deadline is about 98 percent. Late respondents are contacted by telephone. All responses are processed each month before release of the data for publication.

Note 1.5 ERA-60: Reports of Oil Imports into the United States and Puerto Rico

Background

The "Report of Oil Imports into the United States and Puerto Rico" (ERA-60) survey was designed by the Economic Regulatory Administration (ERA) of the Department of Energy to collect data on port of entry, country of origin, destination, and quantity of imported crude oil and petroleum products, as well as sulfur content and API gravity. All licensed importers and importers of record are required to report. The "Shipments of Refined Products from Puerto Rico to the United States" (P-133-M-O) survey was designed to collect data on imports to the United States that are not covered by the ERA-60.

Universe

The monthly submission of Form ERA-60 and P-133-M-O is required by all licensed importers and importers of record into the United States and Puerto Rico. The respondent universe consisted of approximately 750 firms as of June 30, 1981. The respondent universe for these surveys is updated whenever an import license is granted by the Office of Oil Imports of the ERA.

Collection Methods

The survey data are collected by mail each month. It is mandatory for each respondent to file the ERA-60/P-133-M-O by the 15th working day of the month following the reporting period. Resubmissions are received frequently and are processed when received.

Response Rates

In December 1980, the survey had a response rate of 92 percent by the filing deadline. The universe was 640 at that time. (Because this is a dynamic survey, the universe is constantly changing.) Standard followup of nonrespondents is made to insure that all reports are received, since data are not imputed for nonrespondents. Response rate is generally 98-99% by the time the data are first published. Revised publications are not generated as standard operating procedure. The ERA-60 file is never closed; resubmissions are constantly received and processed.

Note 1.6 Census Import (IM-145) and Export (EM-522 and EM-594) Tabulations

The foreign trade statistics program, conducted by the Bureau of the Census, involves compilation and dissemination of a large body of data relating to the imports and exports of the United States.

Import Statistics

Coverage

The import statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. Customs territory (includes the 50 States, the District of Columbia, and Puerto Rico), without regard to whether or not a commercial transaction is involved. In general, the statistics record the physical movement of merchandise into the United States from foreign countries, with the exception of the following types of transactions that are excluded from the statistics:

1. Merchandise shipped in transit through the United States, when documented with Customs as an intransit movement.
2. Shipments between the United States and Puerto Rico, the Virgin Islands, Guam, American Samoa, and other U.S. possessions; shipments between any of these outlying areas; and imports into U.S. possessions from foreign countries.
3. U.S. merchandise returned by U.S. Armed Forces for their own use.

Source of Import Information

The official U.S. import statistics are compiled by the Bureau of the Census from copies of the import entry and warehouse withdrawal forms that importers are required by law to file with Customs officials (Customs Forms 7501- 7505).

Imported petroleum is reported as "Imports for Consumption." Imports for consumption are a combination of entries for immediate consumption and withdrawals from warehouses for consumption. With certain exceptions as indicated above, these data generally reflect the total of commodities entered into U.S. consumption channels.

Country and Area of Origin

The country reported in the statistics as the country of origin is defined as the country where the merchandise was grown, mined, or manufactured. In instances where the country of origin cannot be determined, the transactions are credited to the country of shipment.

Export Statistics

Coverage

The export statistics reflect both government and nongovernment exports of domestic and foreign merchandise from the U.S. Customs territory (includes the 50 States, the District of Columbia, and Puerto Rico) to foreign countries, without regard to whether or not the exportation involves a commercial transaction. In general, the statistics record the physical movement of merchandise out of the United States to foreign countries, with the exception of the following types of transactions:

1. Shipments between the United States and Puerto Rico, the Virgin Islands, Guam, American Samoa, and other U.S. possessions; between any of these outlying areas; and shipments from U.S. Possessions to foreign countries.
2. Merchandise shipped in transit through the United States from one foreign country to another, when documented as such with U.S. Customs.
3. Bunker fuels and other supplies and equipment for use on departing vessels, planes, or other carriers engaged in foreign trade.

Source of Export Information

The official U.S. export statistics are compiled by the Bureau of the Census primarily from copies of Shipper's Export Declarations. Shipper's Export Declarations are required to be filed with Customs officials, except when qualified exporters have been authorized to submit data in the form of magnetic tape, punched cards, or monthly Shipper's Summary Export Declarations directly to the Bureau of the Census.

Country and Area of Destination

The country of destination is defined as the country of ultimate destination or the country where the goods are to be consumed, further processed, or manufactured, as known to the shipper at the time of exportation. If the shipper does not know the country of ultimate destination, the shipment is credited to the last country to which the shipper knows that the merchandise will be shipped in the same form as it was when exported.

Note 2 Estimation

The geographic coverage of all estimates is the 50 United States and the District of Columbia, including adjacent areas of the outer continental shelf, excluding the Hawaiian Foreign Trade Zone.

Note 2.1 Supply

The components of petroleum supply are field production, refinery production, imports, stock withdrawal or addition, crude oil used directly, and losses.

Field Production is the sum of crude oil (including lease condensate) production, natural gas processing plant production, and new supply (field production) of other liquids used by refineries.

Crude oil production is estimated based on data received from State conservation and revenue agencies. Reports of crude oil production from each of the 31 producing States are not received until several months after the other components of petroleum supply described in Explanatory Note 2.1 are available for publication. For an explanation of the crude oil estimation procedure used until the State reports are complete, see Explanatory Note 2.2.

Field production of natural gas plant liquids (NGPL), including finished petroleum products, is reported monthly on survey Form EIA-64, "Natural Gas Liquids Operation Report." Negative production will occur when the amount of a product produced during the month is less than the amount of that same product that is reprocessed (input) or reclassified to become another product during the same month. For survey description and other detail, see Explanatory Note 1.1.

Field production of natural gas plant liquids (NGPL), including finished petroleum products, is reported monthly on survey Form EIA-64, "Natural Gas Liquids Operations Report." Negative production will occur when the amount of a product produced during the month is less than the amount of that same product that is reprocessed (input) or reclassified to become another product during the same month. For survey description and other detail, see Explanatory Note 1.1.

Refinery Production of LRGs, ethane, and finished petroleum products is reported monthly on survey Form EIA-87, "Refinery Report." Published production of these products equals refinery production minus refinery input. Refinery production of unfinished oils and of motor and aviation gasoline blending components appears on a net basis under refinery input. Negative production will occur when the amount of a product produced during the month is less than the amount of that same product that is reprocessed (input) or reclassified to become another product during the same month.

Refinery production is also reported weekly on survey Form EIA-161, "Refinery Report." See Explanatory Notes 1.2 and 1.3 for survey descriptions and other detail. It should also be noted that refineries do not report production of crude oil, natural gasoline, isopentane, unfractionated stream, plant condensate, or other hydrocarbons and alcohol.

Imports of crude oil and petroleum products are reported monthly on Form ERA-60, "Report of Oil Imports into the United States and Puerto Rico," and Form P-133-M-O, "Shipments of Refined Products (including unfinished oils) from Puerto Rico to the United States." In addition, the Census Bureau Tabulation IM-145 summarizes import data from Customs import declarations reported on Customs Forms 7501 and 7505. The most prominent difference between the EIA and Census systems appears in imports of liquefied petroleum gases (LPG), where Census data show a much higher level of imports than Energy Information Administration data. This occurs because the ERA-60 respondent frame was built by monitoring importers of licensed products and because LPGs are not licensed products. Therefore, respondents that only import LPGs have not been identified, and do not report these imports to the Department of Energy. Since these importers are required to file form 7501 with the U.S. Customs Service, EIA obtains data on imports of LPGs from Census Tabulation IM-145. Additional data taken from the IM-145 are relatively small quantities of naphtha and kerosene-type jet fuels, distillate fuel oils, and residual fuel oils withdrawn from bonded storage for use in international trade and for military offshore use. Even though these duty-free fuels are stored on United States shores, they did not enter the United States for domestic consumption and therefore are not included in the ERA-60 reporting system.

Imports are also reported weekly on survey Form EIA-165, "Imports Report." See Explanatory Notes 1.3, 1.5, and 1.6 for survey descriptions and other detail.

Stock Withdrawal (+) or Addition (-) is calculated by subtracting stocks at the end of the month from stocks at the beginning of the month. (Note: The beginning stocks of one month are equal to the ending stocks of the previous month.) A positive result (+) would represent a withdrawal from stocks and an increase in petroleum supplies distributed for domestic consumption. A negative result (-) would represent a buildup of stocks and reduce petroleum supplies distributed for domestic consumption. For survey forms used to make stock withdrawal or addition calculations see Explanatory Note 2.4.

Unaccounted-for Crude Oil is a balancing item that represents the difference between crude oil supply and disposition. Crude oil supply is the sum of field production, imports and stock withdrawal or addition, less crude used directly and losses. Crude oil disposition is the sum of exports and refinery input.

Unaccounted-for crude oil is calculated by subtracting crude oil supplies from crude oil disposition. A negative result indicates that refiners and exporters reported use of more crude oil than was reported to have been available to them. (This occurs, for example, when imports are undercounted due to late reporting or other problems.) A negative result would indicate that more crude oil was reported to have been supplied to refiners and exporters than they reported used. This calculation is performed for crude oil to ensure that product supplied for crude oil is always zero.

Crude Oil Used Directly and Losses is the sum of crude oil losses at refineries, crude oil burned at refineries, and crude oil burned on leases. Crude oil losses and consumption at refineries are reported on Form EIA-87, "Refinery Report." Crude oil burned on leases is reported on Form EIA-90, "Crude Oil Stocks Report." Crude oil burned on leases is divided into two categories: crude burned as residual fuel oil and crude burned as distillate fuel oil. Crude burned on leases appears as a negative supply to crude oil (a reduction in crude oil supplies) and as a positive supply to residual and distillate fuel oil (an increase to these supplies).

Note 2.2: Domestic Crude Oil Production

Data for the Crude Oil Production System (COPS) are reported to the Department of Energy by each of the individual State conservation agencies, which collect crude oil production values for tax purposes. In addition, the U.S. Geological Survey reports the volume of crude oil that is produced offshore in Federally-owned waters. With the exception of six State conservation agencies, all of these reports are received monthly. After each calendar year, these monthly numbers are updated using the annual reports from the State conservation agencies and the U.S. Geological Survey. The six States that do not report monthly values are Indiana, New York, Ohio, Pennsylvania, West Virginia, and Wyoming. Monthly values are estimated for these States using the individual linear trends of their historical annual crude oil production values.

There is a time lag of approximately 3 to 4 months between the end of the reporting month and the time when the actual values are available for this publication. In order to provide more timely crude oil production estimates, the Department of Energy has established a series of statistical models that forecast the volume of crude oil production based on the historical production patterns. The models use Auto Regressive Integrated Moving Average (ARIMA) to analyze series of monthly crude oil production values collected over several years.

In order to provide detailed crude oil production information on both the PAD District level and for the major producing States, the total United States crude oil production volume was separated into nine distinct groupings. The nine different time series are the monthly reported crude oil production volumes for: (1) all the States in PAD District 1; (2) all the states in PAD District 2; (3) Texas; (4) Louisiana; (5) the States in PAD District 3 excluding Texas and Louisiana; (6) all the States in PAD District 4; (7) Alaska; (8) California; and (9) the States in PAD District 5 excluding Alaska and California. Monthly data collected beginning in January 1973 are used for each of these time series.

A separate ARIMA model is identified for each time series. New model parameters are estimated monthly for each of these nine updated time series. Then, these ARIMA models are used to forecast crude oil production volumes for the month of interest. These values are then aggregated into PAD District and national totals. The forecasts made during 1981 had an average error of less than 0.6 percent compared to the monthly crude oil production volumes eventually reported by the States.

Note 2.3 Disposition

The components of petroleum disposition are refinery input, exports, and products supplied for domestic consumption.

Refinery Inputs of crude oil, NGPL and other liquids are reported monthly on survey Form EIA-87, "Refinery Report." Published inputs of unfinished oils, and motor and aviation gasoline blending components, equal refinery input minus refinery output. Refinery inputs of finished petroleum products are reported on a net basis under refinery production. Refinery inputs are also reported weekly on survey Form EIA-161, "Refinery Report." See Explanatory Notes 1.2 and 1.3 for survey description and other details.

Exports of crude oil and petroleum products are compiled from Census Bureau tabulations EM522 and EM594. Exports include crude oil shipments to Puerto Rico, the Virgin Islands, and the Hawaiian Foreign Trade Zone, which are obtained from refinery receipts reported on Form EIA-87.

Product supplied for each product is calculated by summing field production plus refinery production, plus imports, plus stock withdrawal or minus stock addition, plus crude oil used directly and losses (plus net receipts when calculated on a PAD District basis), minus refinery input, minus exports. This formula ensures that total disposition equals total supply. Products supplied indicates those quantities of petroleum products supplied for domestic consumption. Occasionally, the result for a product is negative when total disposition of that product exceeds total supply. Negative product supplied may occur for a number of reasons: (1) product reclassification has not been reported, (2) misreporting or delayed reporting of data, and (3) for calculations on a PAD District basis, incomplete coverage of interdistrict movements data compiled to calculate net receipts.

Note 2.4 Stocks

Primary stocks of crude oil are the sum of ending stocks reported monthly on Form EIA-87, "Refinery Report," and Form EIA-90, "Crude Oil Stocks Report." Crude oil held in the Strategic Petroleum Reserve is included unless otherwise noted. Alaskan crude oil in transit is also included. Stocks of crude oil are also reported weekly on Form 161, "Refinery Report," and Form EIA-164, "Crude Oil Stocks Report." Primary stocks of petroleum products are summed from data reported on the Form EIA-64, "Natural Gas Liquids Operations Report," Form EIA-87, "Refinery Report," Form EIA-88, "Bulk Terminal Stocks Report," and Form EIA-89, "Pipeline Products Stocks Report." Primary stocks of petroleum products do not include secondary stocks held by dealers and jobbers, or stocks held by consumers. Petroleum product stocks are also reported weekly on Form EIA-161, "Refinery Report," Form EIA-162, "Bulk Terminal Stocks Report," and Form EIA-163, "Pipeline Products Stocks Report." For survey descriptions and other details see Explanatory Notes 1.1, 1.2, and 1.3.

Note 2.5 Average Stock Levels

The graphs displaying monthly stock levels of petroleum products, crude oil, motor gasoline, distillate fuel oil, residual fuel oil, liquified petroleum gases and ethane, and other products provide the user with recent data as well as a summary of data from the most recent 3 year period from January through December or from July through June. This summary takes the form of an "average range" that includes seasonal variation determined from a longer time period. The average range represents the historical pattern; it is not a forecast.

These curves are updated every 6 months effective January 1 or July 1 by basing the "average ranges" on a more recent time period. At that time, each 3-year data series will be adjusted by dropping the first 6 months and including the most recent 6 months.

For each data series, the monthly seasonal factors were estimated by means of a seasonal adjustment technique developed at the Bureau of Census (Census X-11). The seasonal factors were assumed to be stable (i.e., unchanging from year to year) and additive (i.e., the series is deseasonalized by subtracting the seasonal factor for the appropriate month from the reported stock levels). The intent of deseasonalization is to remove only seasonal variation from the data. Thus, a deseasonalized series would contain the same trends and irregularities as the original data. For crude oil stocks, the derived seasonal factors were very small relative to crude oil stock levels. Therefore, the seasonal factors for crude oil stock levels were set to zero. The seasonal factors for total petroleum (crude and products), distillate fuel oil, residual fuel oil, liquefied petroleum gases and ethane, and other products were derived using monthly data from 1974-1980. For motor gasoline, the seasonal factors were based on monthly data from 1975, 1976, 1978, 1979 and 1980. In 1977, there was virtually no seasonal behavior in motor gasoline stocks. Monthly stock levels stayed at the same high level for the entire year. In addition, the seasonal patterns in 1978 and 1974 appeared to be different from those in recent years. It was therefore assumed that the seasonal patterns in 1973, 1974, and 1977 were not representative of the recent past, and these years were not used in the determination of seasonal patterns for motor gasoline stocks. Because of these differences in the year-to-year seasonal fluctuation of motor gasoline, the evidence for the illustrated seasonal patterns for total petroleum (crude and products), crude oil, distillate fuel oil, residual fuel oil, liquefied petroleum gases and ethane, and other products is stronger than is the evidence for the illustrated seasonal patterns for motor gasoline.

In some cases, these seasonal patterns do not show a smooth transition from month to month. For example, the June factor for residual fuel oil is slightly less than the May and July values, making a bump in the curve. As there is little difference in the magnitude of these seasonal factors, it is possible that this variation is due to the small number of observations (7 years) and the data variability.

After seasonal factors are derived, the most recent 3 year period (from January through December or from July through June) is deseasonalized. The average of the deseasonalized 36-month series determines the midpoint of the deseasonalized average band. The standard error of the deseasonalized 36 months is calculated adjusting for extreme data points. The width of the "average range" is twice this standard error.

The upper curve of the "average range" is defined as the average plus the seasonal factors plus the standard error. The lower curve is defined as the average plus the seasonal factors minus the standard error.

Note 2.6 Movements

Movements of crude oil between PAD Districts are reported on Form EIA-170, "Tanker and Barge Report." Petroleum product movements are reported on Forms EIA-170 and EIA-89, "Pipeline Products Report." Net receipts are calculated by summing total movements into and total movements from each PAD District by pipelines, tankers, and barges, and subtracting for the difference. Movements of crude oil by pipeline are not reported. For survey descriptions and other detail, see Explanatory Notes 1.2 and 1.4.

Note 2.7 Preliminary Monthly Statistics

Data from the Weekly Petroleum Reporting System (Forms EIA-161, 162, 163, 164 and 165) are used to estimate the most recent monthly values for the historical statistics. Since some of the weekly reporting periods overlap 2 adjacent months, it is necessary to use weighting factors in the calculation of the monthly values.

To calculate monthly estimates of crude oil and petroleum product imports, crude oil input to refineries, and production of petroleum products for a specific month, the weekly estimates are weighted by the number of days of that month included in each week, then summed.

End-of-month stock levels of crude oil and the major products (motor gasoline, distillate fuel and residual fuel) are calculated in a similar manner, but use only the two weekly reporting periods that cover the end-of-week stocks before and after the end of the month. The end-of-month stock level is calculated by first calculating the stock change between the 2 weeks. The daily stock change between the two end-of-week stock levels is then calculated. This number is multiplied by the weighting factor of earlier of the 2 weeks (the week that covers the last day of the month of interest). This change is added to the earlier of the two end-of-week stock levels to estimate the end-of-month stock level.

Preliminary monthly estimates of domestic crude oil production are calculated as described in Explanatory Note 2.2.

Note 3 Accuracy of Petroleum Supply Data

Early in 1981, the Energy Information Administration completed an assessment of the accuracy of principal petroleum supply data series. ¹This assessment concentrated on two methods of analysis:

- Comparisons between EIA's final annual estimates published in the *Petroleum Statement Annual (PSA)* and annual estimates from independent sources.

- Comparisons between EIA's final monthly estimates published in the *PSA* and EIA's earlier estimates published in the *Monthly Petroleum Statistics Report* and the *Petroleum Statement, Monthly* (predecessor of the *Monthly Petroleum Statement*).

Selected excerpts from these comparisons are presented below.

Comparisons of Annual Estimates

All of the systems that provide data for the *Petroleum Supply Monthly*, except for the weekly systems, try to collect data from the entire universe of their potential respondents. They do not sample, and have no sampling errors. Inaccuracies in the data still occur because of problems such as incomplete lists of respondents, errors in the responses, and conceptual errors in the design of the data systems. Such inaccuracies are hard to identify and even harder to quantify. Some understanding of the overall accuracy of the estimates can be achieved by comparing estimates derived from independent sources of data, as shown in the following tables. Close agreements among annual estimates from several independent sources support the conclusion that the estimates are accurate, and accuracy in the annual estimates implies accuracy in the monthly estimates that comprise the annual estimates.

Crude Oil Production

Comparisons among independent estimates of annual crude oil and lease condensate production lead to the conclusion that the *PSA* estimates are probably accurate to within 1 percent.

Crude Oil Imports

Comparisons among independent estimates of annual crude oil imports lead to the conclusion that the *PSA* estimates are probably accurate to within 1 percent. This conclusion is supported by a study of EIA and Customs/Census import data performed for EIA.²

Motor Gasoline Supplied

Comparisons among independent estimates of the annual volume of motor gasoline supplied for domestic use show that differences in the estimates grew between 1977 and 1979. By 1979, the EIA estimate of sales by refiners and the Environmental Protection Agency's estimate of production had grown about 5-7 percent larger than the comparable *PSA*, Lundberg, and American Petroleum Institute (API) estimates. Research conducted by EIA in 1979 and 1980³ confirmed that the lower

¹*An Assessment of the Accuracy of Principal Data Series of the Energy Information Administration*, DOE/EIA-0292, June 1981.

²Maxima Corporation, *Petroleum Imports Reporting Systems, Preliminary Draft*, (Silver Spring, Maryland: February 1980). Prepared for the Office of Energy Information Validation, Energy Information Administration, U.S. Department of Energy, Washington, D.C.

³Office of Energy Information Validation, *Energy Information Administration, U.S. Department of Energy, An Evaluation of Published EIA Gasoline Supply Estimates* (Washington, D.C.: April 1980).

estimates were inaccurate, and identified changes in the petroleum industry that had an adverse effect on the PSA estimate. During 1980, EIA developed and tested improved procedures for collecting petroleum supply data, and implemented them in January 1981. (See Explanatory Note 4.)

Distillate Fuel Oil Supplied

Comparisons among independent estimates of the annual volume of distillate fuel oil supplied for domestic use lead to the conclusion that the PSA estimates are probably accurate to within 1 to 2 percent.

Residual Fuel Oil Supplied

Comparisons among independent estimates of the annual volume of residual fuel oil supplied for domestic use seem to show sizable and consistent differences between the EIA estimates of sales by refiners and the PSA and API estimates. When imports of residual fuel oil by nonrefiners are added to the refiner sales, however, the difference between refiner sales and the PSA estimates are narrowed to within 1 percent. The comparisons therefore lead to the conclusion that the PSA estimates are probably accurate to within 1 to 2 percent.

Comparison of Estimates of the Volume of Crude Oil and Lease Condensate Production, 1977-1979

	Estimated Volume of Production in Millions of 42-U.S. Gallon Barrels ^a			Comparative Estimate as a Percent of the PSA Estimate		
	1979	1978	1977	1979	1978	1977
EIA Estimate from Petroleum Statement Annual ^b	3,121	3,178	3,009	///	///	///
<u>Comparative Estimates</u>						
American Petroleum Institute Estimate from API Monthly Statistical Report ^c	3,130	3,214	3,021	100.8%	101.1%	100.4%
Census Estimate from the Annual Survey of Oil and Gas ^d	—	3,148	3,016	—	99.1%	100.2%
Oil and Gas Journal Estimates ^e of Total Production derived from Monthly Data	3,168	3,165	3,005	101.5%	99.6%	99.9%
EIA Estimate from Annual Survey of Oil and Gas Reserves (EIA-23) ^f	3,102	3,144	3,001	99.4%	98.9%	99.7%

/// = Not applicable

— = Not available

^aVolumes are rounded to the nearest million barrels.

^bFrom Table 6 in EIA's *Petroleum Statement Annual*, 1977, 1978, 1979.

^cFrom issues of the American Petroleum Institute's *Monthly Statistical Report*. The annual values were obtained by summing the monthly values for each of the twelve-month periods.

^dFrom Table 1, p.2 of the Bureau of Census' *Annual Survey of Oil and Gas*, 1978.

^eFrom issues of the *Oil and Gas Journal*. Monthly estimates are in thousands of barrels per day. They are converted to millions of barrels by dividing by 1,000 and multiplying by the number of days in the reporting period.

^fFrom EIA's *U.S. Crude Oil and Natural Gas Reserves 1979 Annual Report* (Table 19, p. 33), *1978 Annual Report* (Table 16, p. 20), and *1977 Annual Report* (Table 22, p.36).

Geographic coverage: the 50 United States and District of Columbia with adjacent areas of the Outer Continental shelf.

SOURCE: *An Assessment of the Accuracy of Principal Data Series of the Energy Information Administration*, DOE/EIA-0292.

Comparison of Estimates of the Volume of Crude Oil Imports, 1977-1979

	Volume of Millions of 42-U.S. Gallon Barrels ^a			Comparative Estimates as a Percent of the Primary Estimate		
	1979	1978	1977	1979	1978	1977
EIA Estimate of Receipts at Ports of Entry (ERA-60) from <i>Petroleum Statement, Annual</i> ^b	2,380	2,320	2,414	///	///	///
<u>Comparative Estimates</u>						
American Petroleum Institute Estimate of Receipts as Reported by Refiners ^c	2,346	2,323	2,360	98.6%	100.1%	97.8%
Customs/Census Estimate of Receipts at Ports of Entry (Customs Forms 7501 and 7502) ^d	2,415	2,338	2,431	101.5%	100.8%	100.7%
EIA Estimate of Inputs of Foreign Crude at Refineries (ETA-87) ^e	2,364	2,334	2,431	99.3%	100.6%	100.7%

/// = Not applicable

^aVolumes are rounded to the nearest million barrels.

^bFrom Table 1 in EIA's *Petroleum Statement Annual* 1977, 1978, 1979. This table also includes imports for the Strategic Petroleum Reserve (SPR) which were 7.5 million in 1977, 58.8 million in 1978, and 24.4 million in 1979.

^cEstimate equals the sum of the annual estimate of imports derived from API's *Monthly Statistics Report* (which excludes imports for SPR), and the EIA estimates for imports for the SPR which are listed in footnote b above. The annual estimates from API data are equal to the sum of the API monthly estimates weighted by the number of days in each month.

^dData on imports to Puerto Rico which are included in the source for these estimates have been excluded from these estimates in keeping with the geographic coverage of the table. Data are from computer printouts of the Bureau of Census Report IM-245-X dated April 3, 1980 (1977 and 1978 data) and December 19, 1980 (1979 data).

^eEstimate equals refinery inputs of foreign crude plus (minus) stock increases (decreases) of foreign crude. The data for the computation are published in EIA's *Petroleum Statement, Annuals*. The stock changes (all increases) are derived from data on stocks of crude oil at refineries, bulk terminals, and pipelines as reported on Form EIA-90, plus the increase in the SPR. This estimate excludes crude oil imported and not used as refinery input.

Geographic coverage: the 50 United States and the District of Columbia.

SOURCE: *An Assessment of the Accuracy of Principal Data Series of the Energy Information Administration*, DOE/EIA-0292.

Comparison of Estimates of the Volume of Motor Gasoline Supplied for Domestic Use, 1977-1979

	Volume in Millions of 42-U.S. Gallon Barrels ^a			Volume Supplied as a Percent of the PSA Estimate		
	1979	1978	1977	1979	1978	1977
EIA Estimate from <i>Petroleum Statement, Annual</i> ^b	2,573	2,711	2,625	///	///	///
<u>Comparative Estimates</u>						
EIA Estimate of Sales by Refiners (P-306) ^c	2,708	2,792	2,671	105.2%	103.0%	101.8%
Environmental Protection Agency Estimate derived from Production Data ^d	2,766	2,851	2,706	107.5%	105.2%	103.1%
Lundberg Surveys, Inc. Estimate of U.S. Motor Gasoline Sales ^e	2,631	2,746	2,656	102.3%	101.3%	101.2%
American Petroleum Institute Estimate of Deliveries ^f	2,579	2,697	2,612	100.2%	99.5%	99.5%

/// = Not applicable

^aVolumes are rounded to the nearest million 42-U.S. gallon barrels.

^bDerived from Table 2 in EIA's *Petroleum Statement Annual*, 1977, 1978, 1979.

^cDerived from Table 1 of EIA's December issue of *Petroleum Market Shares, Report on Sales of Refined Petroleum Products* 1977, 1978, 1979.

^dThe estimate shown is derived by substituting EIA Domestic Production values with values of domestic production tabulated from the Environmental Protection Agency Bq. Form 3520-2, "Lead Additive Report for Refineries." The EPA production estimates are 2,694 million barrels in 1977, 2,767 in 1978, and 2,848 in 1979 as compared from a summary sheet provided by Mr. Bob Summerhayes of EPA.

^eFrom the mid-June issues of the "National Petroleum News," 1979 and 1980.

^fAPI publishes monthly estimates in thousands of barrels per month of the volume of motor gasoline delivered from primary storage. The initial published monthly estimate is derived from API sources, but in later API publications the estimates are revised using EIA data. The values shown in the table are equal to the sums of the initial published API monthly estimates of motor gasoline multiplied by the number of days per month.

Geographic coverage: the 50 United States and the District of Columbia.

SOURCE: *An Assessment of the Accuracy of Principal Data Series of the Energy Information Administration*, DOE/EIA-0292.

Comparison of Estimates of the Volume of Distillate Fuel Oil (Including Kerosene) Supplied for Domestic Use, 1977-1979

	Volume in Millions of 42-U.S. Gallon Barrels ^a			Volume Supplied as a Percent of the PSA Estimate		
	1979	1978	1977	1979	1978	1977
EIA Estimate from <i>Petroleum Statement Annual</i> ^b	1,269	1,307	1,276	///	///	///
<u>Comparative Estimates</u>						
EIA Estimate of Sales by Refiners (P-306) ^c	1,282	1,275	1,242	101.0%	97.6%	97.4%
American Petroleum Institute Estimate of Deliveries ^d	1,291	1,300	1,277	101.7%	99.5%	100.2%

/// = Not applicable

^aVolumes are rounded to the nearest million 42-U.S. gallon barrels.

^bDerived from Table 2 in EIA's "Petroleum Statement Annual", 1977, 1978, 1979.

^cDerived from Table 1 of EIA's December issue of *Petroleum Market Shares, Report on Sales of Refined Petroleum Products*, 1977, 1978, 1979.

^dAPI publishes monthly estimates in thousands of barrels per month of the volume of distillate and kerosene delivered from primary storage. The initial published monthly estimate is derived from API sources, but in later API publications the estimates are revised using EIA data. The values shown in the table are equal to the sums of the initial published API monthly estimates of distillate and kerosene multiplied by the number of days per month.

Geographic coverage: the 50 United States and the District of Columbia.

SOURCE: *An Assessment of the Accuracy of Principal Data Series of the Energy Information Administration*, DOE/EIA-0292.

Comparison of Estimates of the Volume of Residual Fuel Oil Supplied for Domestic Use, 1977-1979.

	Volume in Millions of 42-U.S. Gallon Barrels ^a			Volume Supplied as a Percent of the PSA Estimates		
	1979	1978	1977	1979	1978	1977
EIA Estimate from <i>Petroleum Statement, Annual</i> ^b	1,024	1,095	1,109	///	///	///
<u>Comparative Estimates</u>						
EIA Estimate of Sales by Refiners (P-306) ^c	796	832	847	80.8%	79.6%	80.1%
American Petroleum Institute Estimate of Deliveries ^d	1,044	1,101	1,114	102.0%	100.5%	100.4%

/// = Not Applicable

^aVolumes are rounded to the nearest million 42-U.S. gallon barrels.

^bDerived From Table 2 in EIA's *Petroleum Statement Annual*, 1977, 1978, 1979. Refinery fuel use, subtracted from the figures in the source referenced below, has been reinstated in these estimates.

^cDerived from Table 1 of EIA's December issue of *Petroleum Market Shares, Report on Sales of Refined Petroleum Products*, 1977, 1978, 1979.

^dAPI publishes monthly estimates in thousands of barrels per month of the volume of residual fuel oil delivered from primary storage. The initial published monthly estimate is derived from API sources, but in later API publications the estimates are revised using EIA data. The values shown in the table are equal to the sums of the initial published API monthly estimates of residual fuel oil multiplied by the number of days per month.

Geographic Coverage: the 50 United States and the District of Columbia.

SOURCE: *An Assessment of the Accuracy of Principal Data Series of the Energy Information Administration*, DOE/EIA-0292.

Comparisons of Monthly Estimates Over Time

Inaccuracies in petroleum data resulting from incomplete or delayed reports from respondents and from data processing errors are usually eliminated from the final *PSA* estimates. Such inaccuracies can still have important effects on the monthly estimates published in the *Petroleum Supply Monthly* and its predecessors. The following tables compare the initial monthly estimates published in the *Monthly Petroleum Statistics Report* and the *Petroleum Statement, Monthly* with the final monthly estimates published in the *PSA*. During 1977-1979, the *Monthly Petroleum Statistics Report* was published about 60 days after the end of the reporting month, and the *Petroleum Statement, Monthly* was published about 120-150 days after the end of the reporting month. The tables show that, both in terms of bias and in terms of standard deviation, the later estimates are consistently more accurate than the earlier estimates. In spite of this, the earlier estimates may have been more valuable to users of energy information because of the large difference in timeliness.

For purposes of comparison, the *Petroleum Supply Monthly* is scheduled to be published on about the same time lag as the *Monthly Petroleum Statistics Report*. Caution should be exercised, however, in drawing conclusions from this similarity. The *Petroleum Supply Monthly* uses improved data processing procedures developed and successfully implemented during 1981. In addition, since 1979, EIA has greatly improved the accuracy of its 60-day crude oil production estimates and is making progress in improving the accuracy of its 60-day import estimates.

**Initial Monthly Estimates of Production, Stocks, and Imports of Crude Oil As A Percent of EIA's Final Published Estimates ^a
January 1977 - December 1979**

	<u>Production During Month</u>		<u>Primary Stocks At End of Month</u>		<u>Imports During Month</u>	
	Mean Percent	Standard Deviation	Mean Percent	Standard Deviation	Mean Percent	Standard Deviation
EIA's Estimates from the <i>Monthly Petroleum Statistics Report^b</i>	# 98.7%	1.6%	# 98.3%	1.4%	# 95.4%	2.4%
EIA's Estimates from the <i>Petroleum Statement, Monthly^c</i>	# 99.6%	0.6%	100.0%	0.1%	# 98.4%	1.3%

**Initial Monthly Estimates of Products Supplied for Domestic Use as A Percent of EIA's Final Published Estimates ^a
January 1977 - December 1979**

	<u>Motor Gasoline</u>		<u>Distillate Fuel Oil</u>		<u>Residual Fuel Oil</u>	
	Mean Percent	Standard Deviation	Mean Percent	Standard Deviation	Mean Percent	Standard Deviation
EIA's Estimates from the <i>Monthly Petroleum Statistics Report^b</i>	99.9%	1.3%	99.9%	2.3%	# 97.9%	2.7%
EIA's Estimates from the <i>Petroleum Statement, Monthly^c</i>	100.0%	0.3%	99.7%	0.5%	99.4%	1.2%

**Initial Monthly Estimates of End-of-Month Primary Stocks As a Percent of EIA's Final Published Estimates ^a
January 1977 - December 1979**

	<u>Motor Gasoline</u>		<u>Distillate Fuel Oil</u>		<u>Residual Fuel Oil</u>	
	Mean Percent	Standard Deviation	Mean Percent	Standard Deviation	Mean Percent	Standard Deviation
EIA's Estimates from the <i>Monthly Petroleum Statistics Report^b</i>	99.7%	0.8%	99.7%	1.1%	100.1%	0.7%
EIA's Estimates from the <i>Petroleum Statement, Monthly^c</i>	99.9%	0.2%	100.0%	0.1%	100.1%	0.5%

Represents a difference from 100% found to be statistically significant at the 95% level of confidence (n = 36).

^aFinal monthly estimates are from the "Petroleum Statement, Annual" for 1977, 1978 and 1979. The mean percent is calculated as follows: each preliminary estimate is first expressed as a percent of EIA's final published estimate, these are then summed and the sum is divided by the number of estimates. The standard deviation is the square root of the quantity computed by summing the squared deviation of the percents from the mean percent and then dividing by the number of percents.

^bBased on 36 initial estimates appearing in issues dated January 1977 - December 1979.

^cBased on 36 initial estimates appearing in issues dated January 1977 - December 1979.

SOURCE: *An Assessment of the Accuracy of Principal Data Series of the Energy Information Administration*: DOE/EIA-0292.

Note 4 Changes in Petroleum Industry Reporting

Petroleum statistics contained in this report for all years through 1980 were developed using definitions, concepts, reporting procedures and aggregation methods that are consistent with those developed by the U.S. Bureau of Mines. Research conducted by the Energy Information Administration in 1979 and 1980 indicated that changes had occurred in the petroleum industry that were not being adequately reflected in EIA's reporting systems.

EIA reporting forms, definitions, and procedures were modified beginning in January 1981 to describe industry operations more accurately. Unfortunately, empirical information is not available to precisely measure the data shortcomings throughout 1980. However, estimates of the magnitudes of differences in the major data series are described below to form a basis for comparing 1979, 1980, and 1981 data.

Motor Gasoline

Prior to 1979, the EIA product-supplied series for motor gasoline was consistently about 2 percent lower than the Federal Highway Administration (FHWA) gasoline-sales data series, which is derived from State tax receipts. This difference increased to about 4 percent in 1979 and 5 percent in 1980. There are two primary causes for this growing difference. First, refinery operations, particularly the flows of unfinished oils and the redesignation of some finished products, were not being accurately described on the EIA survey forms. Second, a large amount of gasoline was being produced away from refineries at "downstream blending stations" to take advantage of provisions in regulations governing the amount of lead that could be added. These blending stations were not reporting gasoline production to the EIA until the data system was changed in January 1981.

Quantitative estimates of the magnitude of the difference—in EIA's gasoline product supplied data in 1979 and 1980 have been made by the EIA and the American Petroleum Institute (API). The following table provides 1979 and 1980 data as published in the *Petroleum Statement Annual*, as well as EIA and API estimates of "recast" motor gasoline product supplied. EIA recast estimates were based upon preliminary monthly information in the *Monthly Petroleum Statement*. The ranges displayed in the EIA column reflect uncertainty in the estimates. Also shown are the FHWA motor gasoline sales statistics for those years. EIA has recently published a study of the quality of these FHWA data.¹

¹Office of Energy Information Validation, Energy Information Administration, U.S. Department of Energy, *Error Profile of the Motor Fuel Taxation Data used to Establish and Monitor State Emergency Conservation Targets* (Washington, D.C.: December, 1981).

**Finished Motor Gasoline Product Supplied on Old and New Basis
(Thousand Barrels per Day)**

	1979				1980			
	EIA Reported	API Recast	EIA Recast	FHWA ¹	EIA Reported	API Recast	EIA Recast	FHWA ¹
Jan	6,830	7,230	7,084- 7,246	6,984	6,323	6,789	6,630- 6,791	6,672
Feb	7,254	7,496	7,389- 7,568	7,538	6,596	6,983	6,831- 7,003	6,830
Mar	7,229	7,414	7,301- 7,463	7,316	6,406	6,753	6,607- 6,768	6,713
Apr	7,055	7,300	7,187- 7,353	7,375	6,800	7,014	6,886- 7,052	6,981
May	7,213	7,429	7,313- 7,475	7,428	6,729	6,954	6,823- 6,984	7,044
Jun	7,191	7,483	7,350- 7,516	7,441	6,657	6,966	6,824- 6,991	7,049
Jul	6,902	7,241	7,105- 7,266	7,299	6,743	6,973	6,960	7,132
Aug	7,330	7,546	7,426- 7,588	7,619	6,648	6,841	6,828	7,090
Sep	6,881	7,122	7,016- 7,262	7,232	6,510	6,692	6,962	6,685
Nov	6,791	7,068	6,956- 7,122	7,142	6,234	6,507	6,516	6,951
Dec	6,730	7,106	6,966- 7,127	7,064	6,632	6,948	6,936	6,993
Average	7,034	7,302	7,183- 7,347	7,309	6,579	6,882	6,806- 6,889	6,925

¹FHWA gasoline statistics published in their 1979 Table MF-33G, 08-06-80, contain aviation gasoline as well as motor gasoline. Only motor gasoline data are included in published 1980 data. Consequently, the 1979 data shown above were reduced by subtracting aviation gasoline product supplied quantities as published by EIA in the 1979 *Petroleum Statement Annual*. The 1980 FHWA data published in their 1980 Table MF-33GA, August 1981, did not require this adjustment.

Distillate and Residual Fuel Oil

Distillate and residual fuel oil refinery production statistics through 1980 were adjusted to account for an imbalance between unfinished oil supply and disposition. The reported quantities of refinery inputs of unfinished oils typically exceed the available supply of unfinished oils. It has been assumed that this occurs when distillate and residual fuel oil produced by a refinery is shipped to another refinery, where it is treated as unfinished oil. This oil is then reprocessed rather than used or sold as distillate or residual fuel oil.

For many years (including 1980), the difference between unfinished oil disposition and supply was subtracted from distillate and residual fuel oil production to adjust for this discrepancy. Two-thirds of the difference was applied to distillate, and one-third to residual fuel oil.

Beginning in January 1981 this adjustment was discontinued because there was not sufficient empirical evidence to support it. The following table presents distillate and residual fuel oil refinery production in 1980 as published (adjusted) and on the same basis as 1981 statistics are now being completed (unadjusted) to permit comparison between 1980 and 1981 data series. Adjusted distillate and residual fuel oil product supplied volumes differ from the unadjusted volumes by the same amounts as the adjusted and unadjusted production volumes.

Adjusted and Unadjusted Refinery Production, and Unadjusted Product Supplied of Distillate and Residual Fuel Oils, by Month for 1979 and 1980 (Thousand Barrels Per Day)

1979

Month	Distillate Fuel Oil				Residual Fuel Oil			
	Adj. Ref. Prod.	Unadj. Ref. Prod.	Diff.	Unadj. Product Supplied	Adj. Ref. Prod.	Unadj. Ref. Prod.	Diff.	Unadj. Product Supplied
Jan.	3,043	3,108	65	4,646	1,912	1,946	34	3,594
Feb.	2,888	2,945	57	4,869	1,792	1,822	30	3,625
Mar.	3,019	3,026	7	3,671	1,719	1,723	4	3,243
Apr.	2,945	2,978	32	3,048	1,639	1,656	17	2,524
May	3,066	3,093	27	3,025	1,586	1,600	14	2,517
Jun.	3,153	3,187	35	2,743	1,548	1,566	18	2,601
Jul.	3,305	3,344	38	2,601	1,575	1,594	20	2,471
Aug.	3,321	3,359	38	2,799	1,584	1,603	20	2,570
Sep.	3,354	3,306	-48	2,599	1,627	1,602	-25	2,584
Oct.	3,251	3,217	-34	3,085	1,629	1,612	-17	2,523
Nov.	3,239	3,200	-39	3,208	1,736	1,716	-20	2,795
Dec.	3,221	3,238	17	3,725	1,894	1,903	9	3,022
Average	3,152	3,169	16	3,327	1,687	1,695	8	2,834

1980

Month	Distillate Fuel Oil				Residual Fuel Oil			
	Adj. Ref. Prod.	Unadj. Ref. Prod.	Diff.	Unadj. Product Supplied	Adj. Ref. Prod.	Unadj. Ref. Prod.	Diff.	Unadj. Product Supplied
Jan.	3,013	3,093	80	3,794	1,771	1,812	41	3,108
Feb.	2,766	2,888	122	3,834	1,773	1,836	63	3,168
Mar.	2,557	2,690	133	3,312	1,584	1,652	68	2,726
Apr.	2,460	2,554	94	2,729	1,595	1,643	48	2,492
May	2,474	2,610	136	2,538	1,509	1,579	70	2,305
Jun.	2,646	2,721	75	2,392	1,575	1,613	38	2,359
Jul.	2,689	2,783	94	2,343	1,480	1,528	48	2,339
Aug.	2,461	2,582	121	2,258	1,444	1,506	62	2,348
Sep.	2,686	2,726	40	2,627	1,495	1,516	21	2,380
Oct.	2,589	2,650	61	2,981	1,512	1,543	31	2,258
Nov.	2,703	2,823	120	3,069	1,579	1,641	62	2,513
Dec.	2,891	3,052	161	3,776	1,660	1,743	83	2,762
Average	2,661	2,764	103	2,969	1,580	1,634	54	2,562

Total Petroleum Products

The imbalance between the supply and disposition of unfinished oils is now reported as part of the reclassified products (line 39) in the U.S. Petroleum Balance (Table 1). Imbalances between the supply and disposition of gasoline blending components comprise the remainder of the reclassified in Table 1. These imbalances are reported as negative product supplied in the Other Liquids section of the table of Supply and Disposition Statistics (Table 2). Since these changes only involve redistribution of the volumes of gasoline, distillate and residual fuel oil, gasoline blending components, and unfinished oils, the total volume of petroleum products supplied remains unaffected by them.

Note 5 Notes on Tables

5.1 Crude Oil and Petroleum Products Overview statistics on the referenced line appear in Table 4 of the Detailed Statistics, except where noted.

- Crude Oil and Petroleum Products Stock Withdrawal (+) or Addition (-), Petroleum Products Supplied, Total Imports, Crude Oil Imports, Total Exports, and Crude Oil Exports appear as labeled in Table 4. Total Production and Crude Oil Production appear under Field Production in Table 4.

- Natural Gas Plant Production is the sum of Natural Gas Plant Liquids and Finished Petroleum Products Field Production in Table 4.

- Petroleum Products Imports is the sum of Natural Gas Plant Liquids and LRGs, Other Liquids, and Finished Petroleum Products Imports in Table 4.

- Petroleum Products Exports is the sum of Natural Gas Plant Liquids and LRGs, Other Liquids, and Finished Petroleum Products Exports in Table 4.

- Total Crude Oil and Petroleum Products Ending Stocks appear in thousands of barrels in Table 2.

5.2 Crude Oil Supply and Disposition statistics on the referenced line appear in Table 1 of the Detailed Statistics, except where noted.

- Total Domestic Field Production, Alaskan Field Production, SPR Imports, Other Imports (synonymous with Imports Gross Excl. SPR), SPR and Other Primary Stocks Withdrawal (+) or Addition (-), Unaccounted For Crude Oil, Refinery Inputs, and Exports appear as labeled in Table 1.

- SPR Ending Stocks and Other Primary Ending Stocks (synonymous with stocks excluding SPR) appear in thousands of barrels in Table 1.

- Total Crude Oil Ending Stocks appear in thousands of barrels in Table 2.

- Total Imports appear in Table 4.

5.3 Finished Motor Gasoline Supply and Disposition statistics on the referenced line appear in Table 4 of the Detailed Statistics, except where noted.

- Total Production is the sum of Field Production and Refinery Production in Table 4.

- Imports, Stock Withdrawal (+) or Addition (-), Exports, and Product Supplied appear as labeled in Table 4.

- Unleaded Percent of Total Product Supplied represents the ratio of finished unleaded motor gasoline product supplied to total finished motor gasoline product supplied, multiplied by 100 and rounded to the nearest tenth.

- Ending Stocks appear in thousands of barrels in Table 2.

5.4 Distillate and Residual Fuel Oil Supply and Disposition statistics on the referenced lines appear in Table 4 of the Detailed Statistics, except where noted.

- Total Production is the sum of Field Production and Refinery Production in Table 4.

- Imports, Stock Withdrawal (+) or Addition (-), Crude Used Directly, Exports, and Product Supplied appear as labeled in Table 4.

- Ending Stocks appear in thousands of barrels in Table 2.

5.5 Liquefied Petroleum Gases and Ethane statistics represent the aggregation of statistics on ethane, propane, butane, butane-propane mixtures, ethane-propane mixtures, and isobutane. The statistics on the referenced line appear in Table 4 of the Detailed Statistics, except where noted.

- Total Production is the sum of Field Production and Refinery Production in Table 4.
- Imports, Stock Withdrawal (+) or Addition (-), Refinery Inputs, Exports, and Product Supplied appear as labeled in Table 4.
- Ending stocks appear in thousands of barrels in Table 2.

5.6 Other Petroleum Products Supply and Disposition statistics represent the aggregation of statistics on natural gasoline, isopentane, unfractionated stream, plant condensate, other liquids, and all finished petroleum products except finished motor gasoline, distillate fuel oil, and residual fuel oil. The statistics on the referenced line are aggregated from Table 4 of the Detailed Statistics, except where noted.

- Total Production is the aggregated sum of Field Production and Refinery Production in Table 4.
- Imports, Stock Withdrawal (+) or Addition (-), Refinery Inputs, Exports, and Product Supplied are aggregated from Table 4.
- Ending stocks are aggregated from ending stocks in thousands of barrels in Table 2.

Note 5.7 Table 1. U.S. Petroleum Balance

- Lines (1) through (3) of Table 1: Crude oil (including lease condensate) production for "Alaska," "Lower 48 States," and "Total U.S." are calculated by calling the conservation agency in Alaska for Alaskan crude oil production during the month, estimating crude oil production in the United States (see Explanatory Note 2.2), and taking the difference to equal production in the lower 48 states.
- Line (5) of Table 1: SPR imports are reported on Survey Form ERA-60.
- Line (12) of Table 1: "Total Other Sources" equals crude oil stock withdrawal (+) or addition (-) plus unaccounted for crude oil plus crude used as fuel and losses in Table 2.
- Line (14) of Table 1: Natural gas plant liquids (NGPL) "Production" equals field production of natural gas plant liquids (NGPL) plus field production of finished petroleum products in Table 2.
- Line (15) of Table 1: NGPL "Imports" equals the sum of the imports of natural gasoline and isopentane, unfractionated stream, and plant condensate imports in Table 2.
- Line (16) of Table 1: NGPL "Stock Withdrawal (+) or Addition (-)" is equal to the sum of stock withdrawal (+) or addition (-) of natural gasoline and isopentane, unfractionated stream, and plant condensate in Table 2.
- Line (17) of Table 1 equals the sum of lines (14), (15), and (16) of Table 1.
- Line (18) of Table 1: unfinished oils and gasoline blending components "Stock Withdrawal (+) or Addition (-)" equals stock withdrawal (+) or addition (-) for other hydrocarbons and alcohol, for unfinished oils, motor gasoline blending components, and aviation gasoline blending components.
- Line (20) of Table 1: "Other Hydrocarbons and Alcohol New Supply" equals the field production of same in Table 2.
- Line (21) on Table 1: "Refinery Processing Gain" is a balancing item equal to total refinery production minus total refinery input in Table 2.
- Line (22) on Table 1: "Crude Used Directly" equals the sum of crude oil used directly as distillate and residual fuel oils in Table 2.
- Line (23) of Table 1: "Total Other Liquids" equals the sum of lines (18) through (22) of Table 1.
- Line (24) of Table 1: "Total Production of Products" equals crude oil input to refineries plus field production of NGPL and finished petroleum products; plus imports of natural gasoline and isopentane, unfractionated stream, and plant condensate; plus stock withdrawal (+) or addition (-) of natural gasoline and isopentane, unfractionated stream, and plant condensate; plus stock withdrawal (+) or

addition (-) of other hydrocarbons and alcohol, unfinished oils, aviation gasoline blending components, and motor gasoline blending components; plus imports of unfinished oils, aviation gasoline blending components, and motor gasoline blending components; plus field production of other hydrocarbons and alcohol; plus total refinery production; minus total refinery input; plus crude oil used as distillate and residual fuel oils in Table 2.

- Line (25) of Table 1: "Gross Imports of Refined Products" equals imports of LPG and ethane plus imports of finished petroleum products in Table 2.

- Line (26) of Table 1: "Exports of Refined Products" equals exports of LPG and ethane plus exports of finished petroleum products in Table 2.

- Line (27) of Table 1: "Net Imports of Refined Products" equals the difference between lines (25) and (26) of Table (1).

- Line (28) of Table 1: "Total New Supply of Products" equals crude oil input to refineries plus field production of NGPL and finished petroleum products; plus imports of natural gasoline and isopentane, unfractionated stream, and plant condensate; plus stock withdrawal (+) or addition (-) of natural gasoline and isopentane, unfractionated stream, and plant condensate; plus stock withdrawal (+) or addition (-) of other hydrocarbons and alcohol, unfinished oils, aviation gasoline blending components, and motor gasoline blending components; plus imports of unfinished oils, aviation gasoline blending components, and motor gasoline blending components; plus field production of other hydrocarbons and alcohol; plus total refinery production; minus total refinery input; plus crude oil used as distillate and residual fuel oils; plus imports of LPG and ethane and finished petroleum products; minus exports of LPG and ethane and finished petroleum products in Table 2.

- Line (29) of Table 1: "Refined Products Stocks Withdrawal (+) or Addition (-) equals the sum of stock withdrawal (+) or addition (-) for LPG and ethane, and finished petroleum products in Table 2.

- Line (30) of Table 1: "Total Petroleum Products Supplied for Domestic Use" equals total products supplied in Table 2.

- Lines (31) through (37) of Table 1 equal the respective products supplied in Table 2.

- Line (38) of Table 1: "Other Products Supplied" equals the sum of natural gasoline and isopentane, unfractionated stream, plant condensate, aviation gasoline, naphtha < 400 Deg. F for petrochemical feedstock uses, other oils > 400 Deg. F. for petrochemical feedstock use, special naphthas, lubricants, waxes, coke, asphalt, road oil, still gas, and miscellaneous products supplied in Table 2.

- Line (39) of Table 1: "Total Reclassified" is a balancing item equal to the sum of unfinished oils, motor gasoline blending components, and aviation gasoline blending components products supplied in Table 2.

- Line (40) of Table 1: "Total Product Supplied" is equal to total products supplied in Table 2.

- The sum of lines (41) and (42) of Table 1, stocks of "Crude Oil and Lease Condensate (Excluding SPR)" and stocks held by the "Strategic Petroleum Reserve," equals ending stocks of crude oil in Table 2. SPR stocks are reported on Form EIA-90.

- Line (46) of Table 1, stocks of "Refined Products," equals the sum of LPG and ethane and finished petroleum product stocks in Table 2.